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ABSTRACT

This document helps districts implement the new teacher licensure standards and ensure that staff are assigned to classes they are qualified to teach. It identifies both the existing certification areas and the new licensure areas that are required for teaching specific courses. The areas included are: agriculture; business; career-based intervention programs; computer technology; education of the handicapped; English language arts; family and consumer sciences; foreign language; health education; health occupations; industrial technology/technology education; library/media; mathematics; music; physical education; science; social studies; trade and industrial; and visual arts. For each area, the document provides information on subject code and title; subject definition; subject credit; license type; license code; licensure area; certificate type; certificate code; and certificate area. (SM)

Certification/Licensure Dictionary



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OHIO DEPARTMENT OF EDUCATION

Susan Tave Zelman
Superintendent of Public Instruction

Nancy Ann Eberhart
Interim Chief Program Officer

Marilyn B. Troyer
Interim Director
Professional Development and Licensure

Leonard Crawford
Assistant Director
Professional Development and Licensure

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Introduction

Teacher expertise is the most important factor in determining student achievement. Two recent reports, *What Matters Most: Teaching for America's Future (NCTAF) and Pursuing Excellence (TlMSS)*, point to the close relationship between students' achievement and the knowledge, skills, and the expertise of their teachers.

The following research supports that teacher quality is crucial to what students learn:

1. Teachers' expertise accounts for far more variation in students' achievement than any other factor (Ferguson, 1991).
2. A review of 60 studies finds that teacher education, ability, and experiences are associated with significant increases in student achievement. (Greenwald, Hedges, and Laine, 1996).
3. A study of high-and low-achieving schools in New York City with similar student populations reports that differences in teacher qualifications accounted for more than 90% of the variation in student achievement in reading and mathematics at all grade levels tested. (Armour-Thomas, Clay, Domanico, Bruno, and Allen, 1989).
4. A Tennessee study of the effects of teachers on student learning indicates that elementary school students who are assigned to ineffective teachers for three years in a row score fifty percentile points lower on achievement tests than those assigned to the most effective teachers over the same period of time. (Sanders and Rivers, 1996).

These and other studies confirm that teacher knowledge and expertise are critically important to student achievement. Thus it is important that teachers are assigned to teach only those courses they are fully qualified to teach.

Two recent developments in Ohio are impacting districts in the area of teacher qualifications. First, the new teacher licensure standards that became effective in 1998 are being implemented throughout the state. Second, local district report cards will report on out-of-field teaching in each district, beginning in the year 2000.

This document is designed to assist districts in implementing the new licensure standards and in ensuring that staff are assigned to classes they are qualified to teach. This document identifies both the existing certification areas and the new licensure areas that are required for teaching specific courses. Teachers should hold either the certificate or license identified in this document for each course they teach. Ohio Revised Code sections 3319.30 and 3319.36 prohibit districts from employing teachers without appropriate certification.

Please note that some very old certification codes (prior to 1970) are not listed in the charts. Such codes were omitted in order to minimize confusion over codes that are rarely used today. However, EMIS will continue to accept these codes as appropriate for teachers who still teach under those certificates.

In addition, not all subject areas are included in this document. We have included that vast majority of teaching areas, but some will need to be added over the coming year.

As with any complex document comprised of multiple charts and codes, there may be some omissions or misalignments. If you note any areas in which you feel there is an error, please contact us. We will continue to edit and refine this document as needed to ensure that it is accurate and helpful to districts.

For questions or comments about the EMIS codes in this document, contact Edna Kimm at ims_kimm@ode.ohio.gov. For questions or comments on the credentials required for teaching specific courses, contact Leonard Crawford via e-mail at tc_crawford@ode.ohio.gov or at the following mailing address: 65 S Front Street, Room 412, Columbus, Ohio 43215-4183.

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Object Area—Agricultural & Environmental Sciences, Secondary & Adult Education Course Descriptions

Subject Code and Title	Subject Definition	Licensure Area		Certificate Area	
		Licenses Codes	Certificate Type	Licenses Codes	Certificate Type
Agriscience 010100	The foundation course in agriculture and environmental systems.	Ag/Science	Voc	010100	Agriculture (Voc)
Production Agriculture 010104	Instruction on the principles and practices of food production.	Agriculture/ Technology Business	010104	010104	AgriScience
Other Agriculture 010900	Planned experiences in agriculture for special-needs students.	Agriculture	010900 Any Ag. License	Any Ag. Certificate	Production Agriculture
Agribusiness 010200	Planned learning experiences that prepare students for agricultural careers through cooperative placement.	Agriculture/ Technology Business	010200	010200	Agribusiness
Animal Production & Care 010101	Instruction on the principles and practices of producing, caring for, and marketing domesticated non-food animals.	Ag/Science Business	010101	010101	Animal Production & Care
Equine Science 010131	Instruction on the principles and practices of equine science.	Ag/Science Business	010131	010131	Equine Science
Zoo Animal Production & Care 010191	Instruction on the principles and practices of zoo animal care.	Ag/Science	010191	010191	Zoo Animal Production & Care
Food Science 010400	Instruction on the principles and practices of the initial processing of food products.	Ag/Science Business	010400	010400	Food Science
Horticulture 010500	Instruction on the principles and practices of the culture of ornamental plants and vegetable crops.	Ag/Science Business	010500	100500	Horticulture
Agricultural Industrial Equipment 010300	Instruction on the operations or processes concerned with the selection, operations, maintenance, and use of agricultural power, machinery and equipment, structures and utilities, and soil and water management.	Agriculture/ Technology	010300	010300	Agricultural Industrial Equipment
Natural Resources 010600	Instruction on the theories, principles, and practices of conserving, improving, and productively managing natural resources.	Ag/Science	010600	010600 010700	Natural Resources Forestry
Environmental Management 010699	Instruction on the theories, principles, and practices related to air and water management and environmental protection and improvement.	Ag/Science	010699	010699	Environmental Management

Subject Area—Business

Subject Code and Title	Subject Definition	License Type	Certificate Code	Certificate Area
Accounting (Vocational) 140100	Maintenance and analysis of standard financial business records.	Vocational Business (Vocational)	140550	Integrated Business
Business Information Systems (Vocational) 140200	Programming and operation of technical business systems.			
Administrative Office Technology (Vocational) 140300	Support operations necessary for business.		140550	Integrated Business
Business Administration and Management (Vocational) 140800	Administration and management of business operations.		140550	Integrated Business
Business and Management Foundations (Vocational) 140001	The foundation course in the business and management cluster of occupations.		140550 040800	Integrated Business Marketing Education
Computer Support Technology (Vocational) 144820	A tech prep combination of business and electronics.		171503 140550	Electronics Integrated Business
				Vocational

Project Area—Business

Subject Code and Title	Subject Definition	License Type	License Credit	Licensure Area	Certificate Type	Certificate Code	Certificate Area	
Entrepreneurship- (Vocational) 990361	Exploring owning your own business.	Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational Certificate	
Employability Skills (Vocational) 990362	Work related skills for entering, competing, and advancing in a changing work world.	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational	Any Standard Vocational Certificate	
Accounting/Bookkeeping 030100 Non-Vocational	Maintenance and analysis of standard financial business records.	Business	Vocational	140550	Integrated Business	030000 030050 030100 030300 030325 140100 140200 140300 140800 149000 149001 149002 149003	Vocational or 7-12	Comprehensive Business (7-12) Comprehensive Business w/o Shorthand Accounting Bookkeeping/Basic Business Bookkeeping/Basic Business (9-12) Accounting Business Information Systems Administration Office Technology Business Administration and Mgmt. VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOW w/o Shorthand VOC/BOE w/o DP Shorthand
Business English 030600 Non-Vocational	Enhancement of oral and written communication skills with an emphasis on grammar, punctuation and capitalization.	English or Business	050145	140550	Integrated Business Integrated Language Arts	030000 030050 050000 050012 149002 149001 149003	Vocational or 7-12	Business Education Business Education w/o Shorthand English (7-12) English (9-12) VOC/BOE w/o Shorthand VOC/BOW w/o Data Processing VOC/BOE w/o DP Shorthand
Keyboarding/Typing/Word Processing 036000 Non-Vocational	Transforming input into printed communication using the touch method on computers, keyboards, and similar equipment.	Business	140550	140550	Integrated Business	030000 030050 033401 033455 033500 033589 033610 149000 149001 149002 149003 033456 033600 140300	Vocational or 7-12	Business Education Business Education w/o Shorthand Steno/Typing Steno/Typing Typing Typing (K-12) Typing/Keyboarding (9-12) Comprehensive Business VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o DP Shorthand Typing Keyboarding (K-12) Typing Keyboarding Administration Office Technology

Elect Area—Business

Subject Code and Title	Subject Definition	Licenses Type	Licenses Code	Certificate Type	Certificate Code	Certificate Area
Intro/General Business 032300 Non-Vocational	Study of business operations including framework, legal aspects, start-up, financing, sales, management, and common practices.	Vocational	140550 040800	Integrated Business Marketing Education	030000 030300 030325 040800 140300 149000 149001 149002 149003	Comprehensive Business (7-12) Bookkeeping/Basic Business Bookkeeping/Basic Business (9-12) General Marketing Administration Office Technology VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand
Notehand 033400 Non-Vocational	Abbreviated written communication.		140550	Integrated Business	030000 033401 033410 033455 149000 149001 140300	Comprehensive Business (7-12) Steno/Typing/Keyboarding Shorthand (9-12) Steno/Typing/Keyboarding (K-12) VOC/BOE Comp VOC/BOE w/o Data Processing Administration Office Technology
Office Practice/Filing 032800 Non-Vocational	Training in office practices and procedures, office technology, office environment, records management, human relations, and telephone skills.				030000 140100 140200 140300 140800 149000 149001 149002 149003 030300	Comprehensive Business (7-12) Accounting Business Information Systems Administration Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand Bookkeeping/Basic Business

Subject Area—Business

Subject Code and Title	Subject Definition	Licenses Type	Licenses Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Business Economics 031800 Non-Vocational	Science dealing with the production, distribution, and consumption of commodities.	Business Vocational 140550 040800	Integrated Business General Marketing	Vocational or 7-12	Business Comprehensive Business Comprehensive (7-8) Business Education w/o Shorthand Bookkeeping/Business General Marketing Accounting Business Information Systems Administration Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand	030000 030010 030050 030300 040800 140100 140200 140300 140800 149000 149001 149002 149003	Business Comprehensive Business Comprehensive (7-8) Business Education w/o Shorthand Bookkeeping/Business General Marketing Accounting Business Information Systems Administration Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand
Consumer Education 031500 Non-Vocational	Making intelligent consumer decisions regarding budgeting, housing, debt, insurance, savings, investments, consumer problems, and current consumer issues.				Business Education w/o Shorthand Bookkeeping/Business Business Comprehensive Comprehensive Social Studies Home Economics Economics Consumer Education General Marketing Accounting Business Information Systems Administrative Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand	030050 030300 030000 150002 090000 150600 090104 040800 140100 140200 140300 140800 149000 149001 149002 149003	Business Education w/o Shorthand Bookkeeping/Business Business Comprehensive Comprehensive Social Studies Home Economics Economics Consumer Education General Marketing Accounting Business Information Systems Administrative Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand
Sales 033300 Non-Vocational	Activities involved in selling goods or services.	Business			Bookkeeping/Business Business Comprehensive General Marketing VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand	033325 030000 040800 149000 149001 149002 149003	Bookkeeping/Business Business Comprehensive General Marketing VOC/BOE Comp VOC/BOE w/o Data Processing VOC/BOE w/o Shorthand VOC/BOE w/o DP Shorthand
Data Systems Non-Vocational 031700	Introduction to networking, software development, and business systems operation.	Business	140550	Business	Data Processing Business Education w/o Shorthand Business Information Systems VOC/BOE Comp VOC/BOE w/o Shorthand	031700 030000 030050 140200 149000 149002	Data Processing Business Education w/o Shorthand Business Information Systems VOC/BOE Comp VOC/BOE w/o Shorthand

ject Area—Marketing

Subject Code and Title	Subject Definition	License Type	License Credit	Licensure Area	Certificate Type	Certificate Code	Certificate Area
							Marketing (Vocational)
General Marketing 040800	Activities including product/service planning, financing, production, distribution, information management, purchasing, and selling.						
Marketing Management 040810	Plan, organize, direct and control the functions of marketing.						
Entertainment Marketing 040115	Preparation for marketing in radio and TV broadcasting, performing arts, and related media.						
Distribution Warehousing 041900	Preparation for a career in the physical distribution of products including freight transportation and warehousing.						
Arts and Communication Foundation 040001	The foundation course in the arts and communications cluster.						
Travel and Tourism Marketing 041118	Preparation for marketing occupations in all aspects of the travel and tourism industry						

ect Area—Career Based Intervention Programs

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Career Based Intervention Program 252525	A vocational workbased learning/academic intervention program for students (12 years of age or older, grades 7-12) with barriers to career and academic success. Students 14 and 15 years of age in a paid work experience must meet US Department of Labor WECIP requirements.	CBIP	None	610100	OWE OWA	Occupational Work Experience (OWE) Occupational Work Adjustment (OWA)

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Object Area—Career Based Intervention Programs - Reading

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Career Based Intervention Program Reading 250519	(High school credit optional in grades 9-12, not for high school credit below grade 9) Instruction designed to develop the skills necessary to perceive and react to patterns of written symbols and translate them into meaning.	Elective	None	600100 (Endorsement) and any Reading endorsement	OWE/OWA Reading	179804 049802	Vocational Academic Endorsement (grades 7-12)

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Subject Area—Career Based Intervention Programs - Mathematics

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Career Based Intervention Program Mathematics 25110	(High school credit optional in grades 9-12, not for high school credit below grade 9)	Mathematics	None	600100 (Endorsement) and any Mathematics license	OWE/OWA Mathematics	179800 049800	OWE Mathematics OWA Mathematics

Object Area—Career Based Intervention Programs - Language Arts

Subject Code and Title	Subject Definition	License Type	Licenses Code	Certificate Type	Certificate Code	Certificate Area
Career Based Intervention Program Language Arts 250510	(High school credit optional in grades 9-12, not for high school credit below grade 9) Instruction in language structure, meaning construction, application, and the multidisciplinary nature of language. A basis for reading, writing, listening/visual literacy, and oral communications. May include literature, writing, and applied communications. Course may focus on assisting students who have not passed proficiency tests.	None	600100 (Endorsement) and Language Arts	OWE/OWA English or Language Arts	179081 049801	OWE English OWA English Vocational Academic Endorsement grades 7-12

Object Area—Career Based Intervention Programs - Social Studies

Subject Code and Title	Subject Definition	License Type	License Codes	Licensure Area	Certificate Type	Certificate Codes	Certificate Area
Career Based Intervention Program Social Studies 251510	(High school credit optional in grades 9-12, not for high school credit below grade 9) This course is designed to immerse students in the study of social sciences. Content preparation is correlated to the six strands in the Ohio Social Studies Model. The course includes problem solving, critical thinking, and application skills. High school core standards-led social studies content includes the study of institutions and processes for decision making, knowledge of our nations past from different parts of the world, and the study of change and resources.	Social Studies	None	600100 (Endorsement) and any Social Studies license	OWE/OWA Social Studies	Vocational Academic Endorsement (grades 7-12)	OWE Social Studies OWA Social Studies

Project Area—Career Based Intervention Programs - Science

Subject Code and Title	Subject Definition	License Type Subject Credit	License Code Subject Credit	Licensure Area License Type	Certificate Type Certificate Code	Certificate Area
Career Based Intervention Program Science 25130	(High school credit optional in grades 9-12, not for high school credit below grade 9)	Science	None	OWE/OWA Science (endorsement and any Science license)	Vocational Academic Endorsement (grades 7-12)	OWE Science OWA Science

Subject Area—Computer Technology

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Information Technology 290100	Computer literacy; use of applications such as word processing, database, and spreadsheet; desktop publishing; use of Internet research and communication; evaluation of hardware and software; other kinds of technology concepts and skills.	Computer/ Technology Endorsement	290100	Computer/ Technology	7-12 K-12 Voc Voc Voc Voc Voc 7-12 7-12 Endorsement	Computer Science 7-12, Computer Science K-12 Business Information Systems Administrative Office Technology Business Administration Management VOC/BOE Comp VOC/BOE w/o Shorthand Comprehensive Business (7-12) Business Education w/o Shorthand Data Processing
Computer Graphics 290150	Computer design is explored to develop understanding of the techniques, processes, and possibilities of electronic media.	Computer Science		(Note: a computer science license is currently being developed.)	7-12 K-12	Computer Science 7-12 Computer Science K-12
Computer Science 290200	Study and use of programming languages such as Cobol, Java, and C++; content and experiences with platforms, hardware, operating systems, and design; computer assisted design and graphics; and other computer concepts and skills.				7-12 K-12 7-12	Computer Science 7-12 Computer Science K-12 Business Information Systems
AP Computer Science 290300	An advanced course of organized subject matter and experiences emphasized in computer science that, upon completion, grants college credit to the student.				7-12 K-12 7-12	Computer Science 7-12 Computer Science K-12 Business Information Systems

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Subject Area—Education of the Handicapped

Subject Code and Title	Subject Definition	Licenses Types	Licenses Code	Certificate Types	Certificate Code	Certificate Area
Gifted/Talented (K-12) 196200	Appropriate educational experiences for pupils identified as being gifted in the following areas: superior cognitive ability; specific academic ability; creative thinking ability; and/or performing arts ability.	Intervention Specialist	196210	Gifted	Any Standard Certificate	196210 Gifted/Talented
Multihandicapped (Other than deaf-blind) 192060	A severe impairment and/or such concomitant impairments that the child's educational problems make it impossible to accommodate his/her needs in any program but a program for multihandicapped children. (This definition may include deaf; blind; autistic; and moderately, severely, or profoundly developmentally handicapped children.)		196142	Moderate/Intensive	EH SE SP	196060, 196145, 196150, 192060, 196060, 196120, 196125, 196145, 196150, 192060, 196060, 196120, 196125, 196145, 196150
Deaf-Blind 196320	Concomitant hearing and visual impairments, the combination of which causes such severe communications and other developmental and educational problems that they cannot be accommodated in special education programs solely for deaf or blind children.		196140 196142	Mild/Moderate Moderate/Intensive	EH SE SP	Any handicapped validation
Hearing Handicapped 196070	A hearing impairment, whether permanent or fluctuating, which adversely affects a child's educational performance but which is not included under the definition of "deaf."		196115	Hearing Impaired	EH SE SE	196070 196000, 196010, 196015, 196070, 196000, 196010, Deaf/Hearing Hearing Handicapped Hard of Hearing Deaf
Visually Handicapped 196110	A visual impairment which, even with correction, adversely affects a child's educational performance. The term includes both partially seeing and blind children. 6111 Home Instruction: Home instruction is an individualized special education program provided in accordance with an IEP to a child with disabilities which prevent the child from attending a regular or special education program even with the aid of special transportation.		196110	Visually Impaired	EH SE SP	196110 196040, 196110, 196110 Visual Handicapped Part-Sighted

Subject Area—Education of the Handicapped

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Certificate Type	Certificate Code	Certificate Area
Orthopedically Handicapped 196080	A severe orthopedic impairment which adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g., club-foot, spina bifida, absence of some member), impairments caused by disease (e.g., poliomyelitis, muscular dystrophy, bone tuberculosis), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns which cause contractures).	Intervention Specialist	196140 196142	Mild/Moderate Moderate/Intensive	Any SP, EH, or SE	196080	Orthopedically Handicapped
Other Health Handicapped 196530	Limited strength, vitality or alertness, due to chronic or acute health problems such as a heart condition, tuberculosis, rheumatic fever, nephritis, asthma, sickle cell anemia, hemophilia, epilepsy, lead poisoning, leukemia, or diabetes, which adversely affects a child's educational performance.		196140 196142	Mild/Moderate Moderate/Intensive	Any EH	196080	Orthopedically Handicapped
Severe Behavior Handicapped 196061	A condition exhibiting one or more of following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: (1) an inability to learn, which cannot be explained by intellectual, sensory, or health factors; (2) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; (3) inappropriate types of behavior or feelings under normal circumstances; (4) general pervasive mood of unhappiness or depression; or (5) a tendency to develop physical symptoms or fears associated with personal or school problems. This category does not include children who are socially maladjusted, unless it is determined that they are severe behavior handicapped.		196140 196142	Mild/Moderate Moderate/Intensive	EH SE SP	196050 196050, 196230, 196050, 196230,	LD/BD Severe Behavior Handicapped LD/BD

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Subject Area—Education of the Handicapped

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Certificate Type	Certificate Code	Certificate Area
Developmentally Handicapped 196120	Significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior manifested during the developmental period, which adversely affects a child's educational performance.	196140 	Intervention Specialist	Mild/Moderate	EH	190125, 192060 196060, 196120 196125, 196145 196150 196120	Developmentally Handicapped Multi-Handicapped; MSPR Multi-Handicapped
Specific Learning Disabled 196230	A disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps; of mental retardation; or emotional disturbance; or of environmental, cultural, or economic disadvantage.	196140 		Mild/Moderate	EH SE SP	196085, 196230 196085, 196230 196085, 196230	Specific LD LDBD K-12
Early Education of the Handicapped 196095	Special Education programs and related services for children below five years of age.	Early Childhood Intervention Specialist		PK EH	196095	Early Education of Handicapped Endorsement	

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Subject Area—Education of the Handicapped

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Home Instruction 196111	Home instruction is an individualized special education program provided in accordance with an IEP to a child with disabilities which prevent the child from attending a regular or special education program even with the aid of special transportation.	Intervention Specialist	196140 196142 196115 196110	Any	ED EH SE SP LP	Any Education of the Handicapped Code	Any Education of the Handicapped Area
Speech Handicapped 196510	A communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, which adversely affects a child's educational performance.	Professional Pupil Services	270400	Speech/Language Pathologist	196130 196135	School Speech - Language Pathologist Speech/Hearing Therapist	

Subject Area—Integrated English/Language Arts

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Integrated Language Arts/English 050001	Instruction in language structure, meaning construction, application, and the multidisciplinary nature of language. A basis for reading, writing, listening/visual literacy, and oral communications.	AYA English or Language Arts	050145	Integrated Language Arts 7-12 7-12 7-12	7-12 7-12 7-12 4-9	English (7-12) English (9-12) Comprehensive Communications (7-12)	050000 050012 059901	
		AYA MC English or Language Arts	050145 050150 (9th only)		7-12 7-12 7-12 4-9	English Comprehensive Communications English (9-12) Language Arts and Reading (4-9)	050000 059901 050012 050150 (9th only)	
	Students enrolled in grades 4-9 only.	None MC	050150		1-8 4-9 K-8 1-8	All Communications 7-8 Language Arts and Reading (4-9) K-8 1-8	150950 150150 180106 180100	
	Refresher English 050014	This course is designed to immerse students in literature and writing. It is especially useful for students who have not passed the proficiency tests or for non-native speakers of English..	AYA English	050145	7-12 7-12 7-12 7-12	English (7-12) Comprehensive Communications (7-12) English (9-12) All Communications 7-8	050000 059901 050012 059950	
	Remedial Reading 050119	This course is designed to provide special assistance in the development of the reading processes for students who cannot construct meaning from what they read.	AYA Elective (9-12 only)	059902 050145 (9th only)	Integrated Language Arts or Reading Endorsement	K-12 K-12 K-12 K-12 7-12	Reading Reading (K-12) Remedial Reading Comprehensive Communications	050110 059910 059902 050199 050901
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Subject Area—Integrated English/Language Arts

Subject Code and Title	Subject Definition	Licenses Type	Licenses Credit	Certificate Type	Certificate Code	Certificate Area		
Reading 059902	Instruction designed to develop the skills necessary to perceive and react to patterns of written symbols and translate them into meaning. Students enrolled in grades 9-12 only.	Elective	AYA	Integrated Language Arts or Reading Endorsement	7-12 K-12 7-12 K-12 7-12	059910 059902 059901 050199 059960	Comprehensive Communications (9-12) Reading (K-12) Comprehensive Communications (7-12) Remedial Reading Reading (7-12)	
					4-9 K-12 K-12 7-12 K-8 K-8 1-8	050150 059910 059902 059950 059970 180106 180100	MC Language Arts & Reading Reading (K-12) Reading (K-12) Comprehensive Communications (7-8) Reading (K-8) K-8 1-8	
Business English 030600	The study of oral and written language as it applies to business	MC	050150 059902		Integrated Language Arts Vocational Business	7-12 7-12 7-12 Voc Voc Voc	059901 050000 050012 030000 030050 149003 149001 149002	Comprehensive Communications (7-12) English (7-12) English (9-12) Business Comprehensive (7-12) Bus w/o Shorthand Bus w/o Data Processing Business w/o DP Programming Business w/o Shorthand
Grammar and Usage 050220	This course emphasizes the editing phase of the writing process, providing for students a variety of strategies, handbooks, etc., for refining and editing their own writing. Students will write frequently and work cooperatively to edit their writing.	English	AYA 050145 050150 (9th only)	Integrated Language Arts	7-12 7-12 7-12	050000 050012 059901	English (7-12) English (9-12) Comprehensive Communications (7-12)	

Subject Area—Integrated English/Language Arts

Subject Code and Title	Subject Definition	License Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Literature 050300	The study of print materials which have noteworthy content and excellence of style. May be identified by country, type, and/or period of time.	English AYA MC	050145 050150 (9th only)	Integrated Language Arts	7-12 7-12 7-12 4-9	7-12 7-12 7-12 4-9	050000 050012 053901 050150 (9th only)	English (7-12) English (9-12) Comprehensive Communications (7-12) Language Arts and Reading (4-9)
Composition 050400	Students will develop their writing with a focus on expository and persuasive techniques. Journals will be kept and portfolios will be maintained throughout the class.	English AYA MC	050145 050150 (9th only)	Integrated Language Arts	7-12 7-12 7-12 4-9	7-12 7-12 7-12 4-9	050000 050012 053901 050150 (9th only)	English (7-12) English (9-12) Comprehensive Communications (7-12) Language Arts and Reading (4-9)
Journalism 050403	This course includes the study and practice of writing, editing, and publishing newspapers and periodicals.	English AYA MC	050145 050150 (9th only)	Integrated Language Arts	7-12 7-12 7-12 4-9	7-12 7-12 7-12 4-9	050410 050403 053901 050150 (9th only)	Journalism (9-12) Journalism (7-12) Comprehensive Communications (7-12) Language Arts and Reading (4-9)
Newspaper/Yearbook 050439	This course explores writing for a student audience; centering on the production of the newspaper or yearbook. Students work through all phases of publishing, including advertising, finances, research, writing, and desktop publishing.	English AYA	050145	Integrated Language Arts	7-12 7-12 7-12 4-9	7-12 7-12 7-12 4-9	050410 050403 053901	Journalism (9-12) Journalism (7-12) Communications (7-12)
	If no credit earned	Any Teaching License	Any Teaching License	Any Teaching License	7-12	7-12	Any Teaching Certificate	Any Teaching Certificate
Speech 050500	Subject matter and experience in speech covers a wide spectrum of studies and activities from the scientific (voice science), through the humanistic (rhetoric), and from the behavioral sciences (group dynamics) to the artistic (oral interpretation of literature).	English AYA	050145	Integrated Language Arts	7-12 7-12 7-12 7-12	7-12 7-12 7-12 7-12	053950 053901 050504 050530	All Communications (7-8) Communications (7-12) Speech/Communications (7-12) Speech/Communications (9-12)
Applied Communications 050545	Students will practice the communication skills of reading, writing, listening, and speaking. Especially in areas applicable to their chosen vocations.	English AYA	050145	Integrated Language Arts	7-12	7-12	053901	Communications (7-12)

Subject Code and Title	Subject Definition	License Type	License Credit	Subject Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Dramatic Arts 050500	Subject matter and experiences are concerned with a wide range of studies and activities including playwriting, dramatic literature, scenic design, acting, directing, and the supporting arts and crafts of the theater and of selected aspects of radio, television, and film.	Elective	7-12	050338	Drama/Theater	Speech Speech/Communications (7-12) Speech (K-12) Speech (7-12) Communications (7-12) Dramatics Comprehensive Communications (7-12) Drama/Theater Drama/Theater (K-12) Drama/Theater (9-12) English (9-12)	Speech Speech/Communications (7-12) Speech (K-12) Speech (7-12) Communications (7-12) Dramatics Comprehensive Communications (7-12) Drama/Theater Drama/Theater (K-12) Drama/Theater (9-12) English (9-12)	Speech Speech/Communications (7-12) Speech (K-12) Speech (7-12) Communications (7-12) Dramatics Comprehensive Communications (7-12) Drama/Theater Drama/Theater (K-12) Drama/Theater (9-12) English (9-12)
AP - English 059912	This advanced course consists of organized subject matter and experiences emphasized in English that, upon successful completion, grants college credit to the student.	English AYA	7-12	050145	Integrated Language Arts	7-12 7-12 7-12	7-12 7-12 7-12	7-12 7-12 7-12

Subject Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	License Credit		Subject Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
		Voc	HS						
Middle School Work and Family Life (7-9) 090185	Helps middle school students develop self-responsibility and competence dealing with the practical problems of early adolescence. Content is drawn from two to four content areas: Creating a Self-Identity, Relating to Others, Managing Resources, and Becoming Independent.				090104 180100 180106 230000	Family & Consumer Sciences	Home Economics—Consumer Homemaking Education Elementary 1-8 Kindergarten-Elementary K-8 Home Economics	090104	Home Economics—Consumer Homemaking Education Elementary 1-8 Kindergarten-Elementary K-8 Home Economics
Impact (7-9) 090195	Helps middle school students who are at risk of dropping out of school developing self-responsibility and competence dealing with the practical problems of early adolescence. Content areas include: Creating a Self-Identity, Relating to Others, Managing Resources, and Becoming Independent.							090104 230000	Home Economics—Consumer Homemaking Education Home Economics
Personal Development (9-12) 090101	Instruction focusing on practical problems related to taking responsibility for self and others, building self-esteem, building relationships with family and others, managing stress and conflict, and planning for future careers.	Voc				Family & Consumer Sciences			
Parenting (9-12) 090102	Instruction focusing on practical problems related to parenting roles and responsibilities; taking responsibility for personal growth within the parenting role; preparing for parenthood; meeting developmental needs of children and adolescents; building positive parent-child relationships; using guidance and discipline to promote self-discipline, self-esteem, and socially responsible behavior in children and adolescents; accessing sources of parenting information, support, and assistance; and planning ways that families and society can share in nurturing children and adolescents.								

Subject Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	Licensure Area		Certificate Type	Certificate Code	Certificate Area
		Lic peace Credit	Lic peace Type			
Family Relations (9-12) 090106	Instruction focusing on practical problems related to nurturing human development throughout the life span; forming one's own family; building and maintaining healthy family relationships; developing positive communication patterns; dealing effectively with family stresses, conflicts, and crises; managing work and family roles and responsibilities; and responding to social forces that influence families.	Voc	090104	Family & Consumer Sciences	090104	Home Economics—Consumer Homemaking Education
Nutrition and Wellness (9-12) 090107	Instruction focusing on practical problems related to making choices that promote wellness and good health, evaluating and controlling influences on food choices, obtaining and storing food, preparing and serving nutritious meals and snacks, and selecting and using equipment for food preparation.	Voc	230000	HS		
Resource Management (9-12) 090108	Instruction focusing on practical problems related to managing resources to achieve personal and family goals, making informed consumer choices; creating and maintaining a living environment; selecting, obtaining and maintaining clothing; making food choices; and preparing and serving nutritious food.					
Life Planning (9-12) 090111	Instruction focusing on practical problems related to developing a life-management plan for life beyond high school, caring for self and others, building and maintaining constructive interpersonal relationships and strong functional families, planning to assure career success, and coordinating personal and career responsibilities.					

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Subject Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	Licenses Type	License Code	Certificate Type	Certificate Code	Certificate Area
Life Planning/Mentorship (9-12) 090112	Life Planning course with a mentorship experience attached. May be offered to students in place of Life Planning. Student experience must include local documentation of OCAP competency achievement and follow established guidelines for program design. (Contact Division of Vocational and Career Education, Family and Consumer Sciences at 614-466-3046 for guidelines), 60-239 student instructional hours per class required.	Voc	090104	Family & Consumer Sciences	Home Economics-Consumer Homemaking Education Home Economics	
GRADS - Class Structure 090194	An in-school instructional program for pregnant and parenting students. Promotes personal growth, educational competence, and economic self-sufficiency as socially responsible members of society. The objectives are for students to remain in school, have healthy pregnancies and healthy babies, learn practical parenting and child-development skills, gain orientation to work, set goals toward balancing work and family, and delay subsequent pregnancies.	Voc	230000	HS		
GRADS - Alternative Structure 090193						
GRADS - Minimum Intervention/Follow-up 090192						
Early Childhood Education and Care 090201	Preparation for employment in child care and guidance. Includes instruction and experiences to develop competencies in teaching and guiding young children. Areas of study include promoting physical, intellectual, social, and emotional growth and development in children; creating a safe, healthy learning environment; program operations in early childhood education and care; promoting positive and productive relationships with families; law, regulations, and policies related to child care services and maintenance of child care environments.				Job Training - Early Childhood Education and Care	090201

Subject Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	License Type Credit	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Fashion, Clothing and Interiors, Production and Services 090202	<p>Preparation for employment in fashion and clothing or in interior design and decorating. The fashion and clothing program includes instruction and experiences to develop competencies in textiles, clothing selection, fashion sales and merchandising, dry-cleaning, laundry, construction and alterations. The interior design and decorating program includes instruction in principles of art and design, interior decorating, production of home furnishings, window and floor treatments, home accessories, floor plans and sales and merchandising.</p> <p>If Interiors only 090204</p>	Voc	090202	Job-Training- Fashion, Clothing, and Interiors Production and Services	Voc	090202	Job Training- Clothing and Interiors Production and Services
Culinary Arts & Food Service Management 090203	<p>Preparation for employment in managerial, production and service jobs in a variety of food service and/or baking operations. Includes instruction and experiences to develop competencies in the selection, storage, purchase, preparation and serving of goods and food products, the production of bakery products, safety and sanitation procedures, use and care of commercial equipment, serving techniques, and management of food establishments.</p> <p>If Baking only 090223</p>	090203	Job Training-Culinary & Food Service Management	Job Training- Interiors	090204	090202	Job-Training- Fashion, Clothing, and Interiors Production and Services
	<p>The baking program includes production of bakery products, safety and sanitation procedures, and use and care of commercial equipment.</p>	090223	Job Training- Baking	Job Training- Culinary & Food Service Management	090203	090202	Job Training- Clothing and Interiors Production and Services

Subject Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Hotels and Resorts 090205	Preparation for employment in service and management occupations in the area of hospitality, lodging and facility care. Includes instruction and experiences to develop competencies in hospitality management and services, lodging services, guest relations, hotel security, guest and room services, environmental services, meeting and banquet services, and laundry and linen services.	Voc	090205	Job Training-Hotels and Resorts	Voc	090205	Job-Training - Hotels and Resorts
Family and Consumer Sciences Multi-Area Coop 090290	The Family and Consumer Sciences cooperative work experience includes a combination of two or three of the family and consumer sciences job training program options.	Voc	090660	Job Training-Family and Consumer Sciences Multi Area Coop	Voc	090660	Job Training - Family and Consumer Sciences Multi-Area Coop
Human Resources/ Services Foundation 090001	A career pathway foundations course to be taken early in a series of academic, technological, employability and occupational courses leading to one of the Human Resources/Services career majors.		090104 090660 090201	Family & Consumer Sciences Job Training-Family & Consumer Sciences Multi-Area Coop Job Training-Early Childhood Education and Care		090104 090660 090201	Home Economics-Consumer Homemaking Education Job-Training Family and Consumer Sciences Multi-Area Job-Training Early Childhood Education and Care
Family and Consumer Sciences 230000 Non-Vocational	Instruction focusing on content from a combination of the various areas of family and consumer sciences and emphasizes basic principles and interrelationships among these areas.		090104	Family & Consumer Sciences		090104 230000	Home Economics-Consumer Homemaking Education Home Economics
Clothing and Textiles 230100 Non-Vocational	Instruction focusing on the nature, acquisition, and use of clothing, including the significance of clothing to the individual and family.						
Foods and Nutrition 231040 Non-Vocational	Instruction focusing on food and its role in personal and family living, including the basic principles of health, nutrition, food management, and economics.						

Object Area—Family and Consumer Sciences

Subject Code and Title	Subject Definition	Licenses Type	Licenses Code	Certificate Type	Certificate Code	Certificate Area
Child Development and Parenting 230200 Non-Vocational	Instruction focusing on children -- their physical, mental, emotional, and social growth and development -- and their care and guidance.	Voc	090104	Family & Consumer Sciences	090104	Home Economics-Consumer Homemaking Education
Consumer Education 230300 Non-Vocational	Instruction focusing on consumer education as it relates to the management of a home and to the welfare of family members.	Voc	090104		230000	Home Economics
Family Living 230500 Non-Vocational	Instruction focusing on human development through the life cycle and family relationships.	Voc				
Housing and Home Furnishings 230600 Non-Vocational	Instruction focusing on living environments, choice of residence, equipping and furnishing the home.	Voc				

Subject Area—Foreign Language — Multi-Age

Subject Code and Title	Subject Definition	License Type	Subject Credit	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Arabic 060101	The language, literature and culture of the Arabian world.							
Chinese 060102	The language, literature, and culture of the ancient Chinese world.							
Greek 060103	The language, literature, and culture of the ancient Greek world.							
Hebrew 060104	The language, literature, and culture of the ancient Hebrew world.							
Latin 060107	The language, literature, and culture of the ancient Roman world.							
AP-Latin 069922	An advanced course in the language, literature, and culture of the ancient Roman world that upon successful completion, grants college credit to the student.							
Russian 060218	The language, literature, and culture of the Russian-speaking world.							
Swahili 060221	The Bantu language used as a medium of communication by the peoples of eastern and central Africa.							
Czech 060227	The language, literature, and culture of the Czech-speaking people.							
French 060230	The language, literature, and culture of the French-speaking people.							
AP-French 069914	An advanced course in the language, literature, and culture of the French-speaking people that, upon successful completion, grants college credit to the student.							

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Subject Area—Foreign Language — Multi-Age

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area		
German 060235	The language, literature, and culture of the German-speaking people.				German	MA	060235	German	7-12 K-12	066009 060235
AP-German 069996	An advanced course in the language, literature, and culture of the German-speaking people that, upon successful completion, grants college credit to the student.				AP-German 060235		AP-German 060235		AP-German (7-12) AP-German (K-12)	
Italian 060245	The language, literature, and culture of the Italian-speaking people.				Italian 060245		Italian 060245		Italian (7-12) Italian (K-12)	
Japanese 060250	The language, literature, and culture of the Japanese-speaking people.				Japanese 060250		Japanese 060250		Japanese (7-12) Japanese (K-12)	
Polish 060255	The language, literature, and culture of the Polish-speaking people.				Polish 060255		Polish 060255		Polish (7-12) Polish (K-12)	
Spanish 060265	The language, literature, and culture of the Spanish-speaking people.				Spanish 060265		Spanish 060265		Spanish (7-12) Spanish (K-12)	
AP-Spanish 069930	An advanced course in the language, literature, and culture of the Spanish-speaking people that, upon successful completion, grants college credit to the student.				AP-Spanish 060265		AP-Spanish 060265		AP-Spanish (7-12) AP-Spanish (K-12)	
TESOL 060207	The study of the language, literature, and culture of English-speaking people by individuals whose primary language is not English.				(Endorsement) 050275		TESOL 050274		Endorsement 050275 TESOL 050274	
American Sign Language 061050	The study of the visual-gestural language used by deaf people in the United States and part of Canada. ASL has its own culture, grammar, and vocabulary; is produced by using the hands, face, and body; and is not derived from any spoken language.				Foreign Language 050090		American Sign Language 050090			

Object Area—Health Education

Subject Code and Title	Subject Definition	License Type	License Credit	Certificate Type	Certificate Code	Certificate Area
Health Education 260101	Educational activities that promote understanding, attitudes, and practices consistent with individual, family, and community health needs.	MA	080115	Health	7-12 7-12 K-12	Health Education (7-12) Health Education (7-12) Health Education (K-12)
Dental Health Education 260840	A combination of subject matter and experiences designed to promote understanding, attitudes, and practices pertaining to teeth and oral health.				7-12 7-12 7-12 K-12	Dental Health Education Health Education (7-12) Health Education (7-12) Health Education (K-12)
Substance Abuse Prevention 260150	Subject matter and learning experiences which address drug, alcohol, and tobacco abuse situations including prevention, intervention, discipline, and community relations available to the pupil and to the family.				7-12 7-12 7-12 K-12	Drug Education (7-12) Substance Abuse (7-12) Health Education (7-12) Health Education (K-12)
Safety/First Aid/CPR 260200	Subject matter and learning experiences concerned with the developing in individuals an awareness and understanding of hazards of everyday living, and the knowledge, habits, attitudes, and skills which will enable them to function at an optimum level in the presence of hazards.				7-12 7-12 K-12	Health Education (7-12) Health Education (7-12) Health Education (K-12)
Sports Medicine 260410	Educational activities concerned with the effects of sports and exercise on health and fitness and with the prevention and treatment of athletic injuries.				7-12 7-12 K-12 7-12 K-12	Sports Medicine Health Education (7-12) Health Education (7-12) Physical Education (7-12) Physical Education (K-12)

Select Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Licensure Area
						Diversified Health Occupations (DHO)
Foundation for Health Occupation 070001	A 9th and/or 10th grade career pathway foundation course that is a component of a series of academic, technological, employability and occupational courses leading to one of the Health Services career majors. (Revised 5-13-98)	Vocational	070988 079960	Diversified Cooperative Health Occupations (DCHO)	070988 079960	Diversified Health Occupations (DHO)
						Diversified Cooperative Health Occupations (DCHO)
Dental Assistant 070101	A combination of subject matter and experiences designed to prepare a person to assist the dentist at the chair-side in the dentist operatory, perform reception and clerical functions, and carry out selected dental laboratory work. Instruction includes infection control and hazards management, emergency procedures, preventive dental assisting procedures, chair-side assistance, dental specialties, dental laboratory procedures, office procedures, radiographic procedures, and professionalism. (Revised 8-18-98)	Voc	070984 070303 070302 079950 070410	Medical Assistant Nurse Assistant Practical (Vocational) Nurse PN Coordinator Fitness Aide/Athletic Trainer Assistant	070984 070303 070302 079950 070410	Medical Assistant
						Dental Assisting
Dental Laboratory Technology 070103	A combination of subject matter and experiences designed to prepare a person to execute work in producing restorative appliances require for the oral health of the patient, as authorized by a dentist.		070103	Dental Laboratory Technology	070103	Dental Laboratory Technology
						Dental Laboratory Technology
Medical Laboratory Technology 070203	A combination of subject matter and experiences organized to prepare a person to work under the supervision of medical technologist, clinical pathologist, or physician to perform routine clinical laboratory procedures and specimen collection procedures, including phlebotomy techniques.		070203	Medical Laboratory Technology	070203	Medical Laboratory Technology
						Medical Laboratory Technology
Phlebotomy 070204	A combination of subject matter and experiences designed to prepare an individual to collect, process, handle, and store blood specimens under the supervision of a medical technologist, clinical pathologist, or physician, which leads to a recognized, portable credential as a phlebotomist. This program is designed as a senior year only program. (Revised 8-18-98)		070204	Phlebotomy	070204	Phlebotomy

Subject Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	Licensure Type	Licensure Code	Certificate Type	Certificate Area		
						Code	Description
Practical (Vocational) Nurse 070302	A combination of subject matter and supervised clinical experiences designed to prepare a person to give direct nursing care under the supervision of a registered nurse, licensed physician, or dentist. Instruction includes safety and infection control, first aid, and CPR, legal and ethical responsibilities, coordinated care, goal-oriented care, environmental safety, treatments and procedures, physiological adaptation, mobility, comfort, basic care, psychosocial adaptation, growth and development, prevention and early treatment of disease, and reduction of risk potential. (Revised 5-13-98)	Vocational	070302 079950	Practical (Vocational) Nurse PN Coordinator	Voc	070302 079950	Practical (Vocational) Nurse PN Coordinator
Nurse Assistant 070303	A combination of subject matter and experiences designed to prepare a person to perform routine tasks involved in the care of individuals receiving nursing service under the supervision of a nurse. The program is approved as NATCEP by the Ohio Department of Health. (Revised 5-13-98)	Voc	070303 079958	Nurse Assistant DHO Instructor		070303 079958	Nurse Assistant DHO Instructor
Surgical Technician 070305	A combination of subject matter and experiences designed to prepare a person to serve as a general assistant on the surgical team in the operating suite. (Revised 5-13-98)			Surgical Technician		070305	Surgical Technician
Home Health Aide 070307	A combination of subject matter and experiences designed to prepare a person to assist the elderly, convalescent, or handicapped in their homes, and to provide for their daily living needs, under a plan of care supervised by a nurse. The program must include TCEP for Home Health Aide based on Model Curriculum and Teaching Guide for the Instruction of the Home Health Aide by the National Association for Home Care. (Revised 5-13-98)					070307 079958 070303	Home Health Aide DHO Instructor Nurse Assistant (Aide)

Subject Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	Licensure Credit	Licensure Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Fitness/Athletic Trainer Assistant 070410	A combination of subject matter and experiences designed to prepare persons to perform routine tasks designated by a licensed athletic trainer related to the operation of athletic training. Curriculum content includes nutrition, health continuum, exercise physiology, infection control, anatomy and physiology, first aid and safety, psychology, and exercise techniques. Individuals may be employed in health spas, fitness centers, and/or sporting facilities.	Vocational	Voc	070410	Fitness/Athletic Trainer Assistant	Voc	070410	Fitness/Athletic Trainer Assistant
Optometric Occupations 070603	A combination of subject matter and experiences designed to train a person to prepare, assemble, and/or fit corrective lenses prescribed by a physician or optometrist. These occupations may include optical surfacing, optical finishing, optical stylist, and/or optical dispensing.			070603	Optometric Occupations		070603	Optometric Occupations
Medical Assistant 070904	A combination of subject matter and experiences designed to prepare a person to perform functions and follow procedures concerned with the diagnosis and treatment of patients under the supervision of a physician in a physician's office or clinic. Instruction covers physical examinations, laboratory tests, infection control and hazard material management, quality assurance, medical emergencies, patient education, medical ethics, general office procedures, insurance, and medications. (Revised 5-13-98)			070904	Medical Assistant		070904	Medical Assistant
Community Health Aide 070906	A combination of subject matter and experiences designed to prepare a person to serve as liaison between professional health workers and the recipients of health services. Instruction emphasizes basic understanding of biology, communicable diseases, environmental health, personal hygiene, infants, medicines, and family and community resources.			070906	Community Health Aide		070906	Community Health Aide

Object Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	License Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Pharmacy Assistant 070912	A combination of subject matter and experiences designed to prepare a person to work in a pharmacy under the supervision of a pharmacist. Instruction includes pharmacy law and ethics, pharmaceutical calculations, pharmacy operations, compounding, and pharmacology. (Revised 5-13-98)	Vocational	Voc	070912	Pharmacy Assistant	Voc	070912	Pharmacy Assistant
Health Unit Coordinator 070913	Instruction and experiences designed to prepare a person to manage components of non-patient care activities in health care facilities. The unit coordinator transcribes physician's orders, acts as liaison with other departments and agencies providing patient services, use communication devices such as telecommunication systems, computer terminals and fax machines, responsible for the accuracy and completeness of records, delivery of messages, and prompt reporting of needed repairs or services. (Revised 5-13-98)			070913	Health Unit Coordinator		070913	Health Unit Coordinator
Patient Care Technician 070994	A combination of subject matter and laboratory experiences to prepare a person for patient-care who can perform the following: the skills of nurse aide, phlebotomy, home health aide, EKG, or advanced nursing skills. Instruction includes, but not limited to, infection control and hazard material management, medical asepsis, anatomy and physiology, computer skills, medical terminology, universal employability skills, phlebotomy skills, patient rights, CPR and first aid, communication and interpersonal skills, professional ethics, documentation, EKG skills, and advanced nursing skills. (Revised 5-13-98)			070994	Patient Care Technician		070994 074820 079950 074830	Patient Care Technician Phlebotomy Exit (Tech Prep) PN Coordinator Pre-Nursing (Tech Prep)

ec Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	License Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Diversified Health Occupations (DHO) 070998	A combination of diversified subject matter and experiences designed to prepare a person for entry into the health field. Instruction includes emergency procedures, infection control and hazards management, legal, ethical, and professional responsibilities, basic personal care, medical database, medical/dental procedures, laboratory-related procedures, care of the elderly, home health care, restorative duties, and office procedures. Field trips and rotations through various health agencies are a part of the planned program. Program is approved as NATCEP by the Ohio Department of Health. (Revised 5-13-98)	Vocational	Voc	070998	Diversified Health Occupations (DHO)	Voc	070998	Diversified Health Occupations (DHO)
Phlebotomy Exit (Tech Prep) 074820	An Allied Health Tech Prep Cluster targets technician-level occupations within the following areas: respiratory therapy, radiography, surgical technology, emergency medical, technology, and medical laboratory technologies. Phlebotomy is the job exit for grade 12. This clustered Tech Prep program of study prepares students for continued education and training for employment as an allied health technician. (Revised 8-18-98)			074820 070998 070302 079950	Phlebotomy Exit (Tech Prep) DHO Instructor Practical (Vocational) Nurse PN Coordinator		074820 070998 070302 079950	Phlebotomy Exit (Tech Prep) DHO Instructor Practical (Vocational) Nurse PN Coordinator
Pre-Nursing (Tech Prep) 074830	A combination of subject matter and experience designed to prepare a person to gain entry level experience in a Pre-Nursing program; includes a current knowledge of concepts, principles, processes, and skills relating to health, deviations from health, nutrition, pharmacology, communication, human development, teach-learning principles, current technology, humanities, and biological, social, and behavioral sciences. State Approved Nurses Aide is job exit for grade 12. This Tech Prep program of study prepares students for continued education in an approved nursing education program preparing for Licensure as a registered or LPN/LVN nurse. (Revised 8-18-98)			070303 070998 070302 079950	Pre-Nursing (Tech Prep) DHO Instructor Practical (Vocational) Nurse PN Coordinator		070303 070998 070302 079950	Pre-Nursing (Tech Prep) DHO Instructor Practical (Vocational) Nurse PN Coordinator

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Project Area—Secondary Health Occupations

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Certified Health Unit Coordinator Exit (Tech Prep) 074890	An Allied Health Tech Prep Cluster targets technician-level occupations within the following areas: rehabilitation and restorative services, electrocardiography, pharmacy, and medical administrative services (including health information/medical records). Certified Health Unit Coordinator is the job exit for grade 12. This clustered Tech Prep program of study prepares students for continued education and training for employment as an allied health technician. (Revised 8-18-98)	Vocational	074890	Certified Health Unit Coordinator Exit (Tech Prep)	070904	Certified Health Unit Coordinator Exit (Tech Prep)
Diversified Cooperative Health Occupations (DCHO) 079960	A cooperative program in multi-occupational areas of health occupations.		079960	Diversified Cooperative Health Occupations (DCHO)	070303 070998 070302 079950	Diversified Health Occupations Practical (Vocational) Nurse PN Coordinator

Subject Area—Industrial Technology/Technology Education

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Technology Education	<p>A comprehensive study of the knowledge and processes necessary in designing, making, developing, producing, using, managing, and assessing of technological systems and products. Dimensions of technology include assessing impacts and consequences of technology, nature and history of technology, and connections. Technological systems and products are those systems and products that change the world around us to satisfy our needs and wants. In particular Technology Education focuses on the systems and products of the construction, manufacturing, communication, energy/power/transformation, and bio-related/chemical fields. These activities may take place in thematic units at the elementary level, general technology courses at the middle and high school levels, Tech Prep and Pathways courses at the high school level, and modules and problem-based learning integrated with mathematics, science, language arts, social studies, and arts teams at all levels.</p>	Technology Education	MA	160610	K-12	101320 100005 102000	Industrial Technology (K-12) Industrial Arts (K-12) Industrial Technology (7-12) Industrial Arts (7-12)
Technology Education							
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Subject Area—Industrial Technology/Technology Education

Subject Code and Title	Subject Definition	License Type Subject Credit	Licensure Code License Type	Certificate Type Certificate Code	Certificate Area
Construction Technology Systems A comprehensive study of the knowledge and processes in designing, making, developing, producing, using, managing, and assessing of technological systems and products to build structures. In particular courses that are part of the construction technology systems focus on project planning, architectural design and drafting, site preparation, building the structure, and maintaining the structure. Construction 100100 Home Mechanics 100800	Manufacturing Technology Systems A comprehensive study of the knowledge and processes in designing, making, developing, producing, using, managing, and assessing of technological systems and products in manufacturing facilities. In particular courses that are part of manufacturing technology systems focus on mechanical design and drafting, materials, and processes (including woods, metals, and plastics), production, robotics and automation systems, and specific trades/crafts.	Manufacturing 101300 Industrial Crafts 100200 Metals 101410 Plastics 101500 Woods 101900 Service Industries 101800 Robotics 101350	160610 MA Technology Education	K-12 7-12	Technology Education Industrial Technology (K-12) Industrial Arts (K-12) Industrial Technology (7-12) Industrial Arts (7-12)
			101320 100005 101315 102000	K-12 7-12	

Object Area—Industrial Technology/Technology Education

Subject Code and Title	Subject Definition	License Credit Type	Licensure Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
	<p>Communication Technology Systems</p> <p>A comprehensive study of the knowledge and process in designing, making, developing, producing, using, managing, and assessing of technological systems to produce products for transferring graphic and electronic messages. Computer modeling and information technology applications are critical to all technology systems areas. In particular courses that are part of communication technology systems focus on existing and emerging information technologies for encoding, transmitting, receiving, storing, retrieving, and decoding of graphic and electronic messages.</p>		MA	Technology Education	K-12	101320 100005	Industrial Technology (K-12) Industrial Arts (K-12)

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Subject Area—Industrial Technology/Technology Education

Subject Code and Title	Subject Definition	Licenses/Credit	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Energy/Power/Transportation Technology Systems	A comprehensive study of the knowledge and process in designing, making, developing, producing, using, managing, and assessing of technological systems to produce products for the transmission of energy and power, and the transportation of goods and people. In particular technology courses focus on energy and power sources or devices, the transformation of energy and power from one form to another, the transmission of power from one point to another, and the safe use of power. In addition transportation focuses on the systems and products used to transport goods and people.	Technology Education	MA	160610	Technology Education	K-12	Industrial Technology (K-12) Industrial Arts (K-12)
Energy/Power/Transportation 102100							Industrial Technology (7-12) Industrial Arts (7-12)
Power Mechanics 101610							
103050	Bio-Related and Chemical Technology Systems						
	A comprehensive study of the knowledge and process in designing, making, developing, producing, using, managing, and assessing of technological systems to produce products with bio-related and chemical applications. In particular technology courses focus on practical application of biological organism and chemical processes to make or modify products, the production process techniques related to agriculture, chemical, and medical technology products, and the human interface with technology in managing the artificial and natural environment.						

Subject Code and Title	Subject Definition	Licensee Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Library Science 200700	<p>Instruction seeks to help students understand how information is organized in school, public, and academic libraries and how to develop an effective strategy for selecting information and make use of print and/or electronic resources and equipment within the library. That information is available in a wide variety of formats; and that information is available outside the school library/media center and can be accessed electronically or through traditional methods.</p>	Elective Multi-Age	050675	Library/Media 7-12 K-12 7-12 7-12 K-12	050650 050675 050700 050902 050905	Library/Media (7-12) Library/Media (K-12) Library Science (7-12) Educational Media (7-12) Educational Media (K-12)	
	Educational Media 200902	Elective	MA				

Subject Area—Mathematics

Subject Code and Title	Subject Definition	Licensure Type	License Code	Licensure Area	Certificate Type	Certificate Area
Algebra I 110301	In-depth study of algebraic concepts and processes to represent and solve problems that involve variable quantities. Includes using and relating graphical and symbolic representations and techniques.	Math	AYA MC	110094 110100 (grade 9 only)	7-12 4-9	High School Math (7-12) Middle Grades Math (4-9)
Geometry 111200	In-depth study of two and three-dimensional geometry including representing problem situations using geometric models, deductive reasoning, and geometry from an algebraic perspective.	AYA	110094	Integrated Mathematics	7-12	7-12 High School Math
Algebra II 110302	Further study of algebraic concepts and processes such as matrices, vectors, and logarithmic and trigonometric functions.					
Advanced Mathematics 110099	The study of advanced topics in functions, algebra, geometry, and data analysis including the conceptual underpinnings of calculus.					
Discrete Mathematics 111300	The study of mathematical properties of sets and systems that have a countable number of elements including applications of systematic counting techniques and algorithmic thinking to represent, analyze, and solve problems.					
Probability and Statistics 111500	In-depth study of probability, data analysis, and statistics including applying the concept of random variables to generate and interpret probability distributions, transforming data to aid in interpretation and prediction, and testing hypotheses using appropriate statistics.					94
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Subject Area—Mathematics

Subject Code and Title	Subject Definition	License Type	License Credit	Licensure Area	Certification Type	Certification Code	Certification Area
Trigonometry 111600	In-depth study of trigonometric and circular functions including modeling, graphing, and connecting to polar coordinates, complex numbers, and series.	Math		Integrated Mathematics			7-12 High School Math
Calculus 110600	A formal study of topics from calculus that is not associated with the Advanced Placement Program. Includes the study of limit, series, and differentiation and integration.						7-12 High School Math
Informal Mathematics I/ Algebra 112100	The first course in a four-year sequence that addresses new, high school level content through concrete models and activities with less emphasis on abstraction and symbol-manipulation. Includes courses with an algebra focus such as Basic Algebra, Informal Algebra, or Applied Algebra. Note: This code should be used for the first year of a two-year Algebra I course, e.g., Algebra IA. The Algebra I subject code should be used for the second year, e.g., Algebra IB. This code should only be used for pre-algebra courses that address new, high school level work beyond content found in the grades 6-8 portion of the Model Competency-based Mathematics Program.	Math AYA MC	110094 110100 (7-9)	Integrated Mathematics Middle Childhood-Math [7-9]	4-9 7-12	110100 110000 (7-9)	Middle grades Math (4-9) High School Math (7-9)
Informal Mathematics II/ Geometry 112200	The second course in a four-year sequence. Includes courses with a geometry focus such as Basic Geometry, Informal Geometry, or Applied Geometry.	Math AYA	110094	Integrated Mathematics	7-12	110000	7-12 High School Math
Informal Mathematics III	The third course in a four-year sequence. Includes new, high-school level content and extends understanding of mathematics drawn from topics such as algebra, geometry, data analysis and/or discrete mathematics.						
Informal Mathematics IV 112300	The fourth course in a four-year sequence. Includes new, high-school level content and extends understanding of mathematics drawn from topics such as algebra, geometry, data analysis, discrete mathematics, and/or conceptual underpinnings of calculus.						

Subject Area—Mathematics

Subject Code and Title	Subject Definition	Licensure Area		Certification Area	
		License Type	License Code	Certificate Type	Certificate Code
Intervention/Review Mathematics 111950	Courses contain little or no significant new content from courses taken previously. Courses may focus on helping students who have taken but not yet passed proficiency tests. Courses such as general mathematics, business mathematics, and consumer mathematics should be reported using this code if based upon content and skills from the middle childhood (grades 4-8) portion of the Model Competency-based Mathematics Program. This code should be used for pre-algebra courses that address content primarily from the grades 6-8 portion of the Model Competency-based Mathematics Program. (high school credit optional in grades 9-12, not for high school credit below grade 9)	A/Y MC	110094 110100 (grade 9 only)	Integrated Mathematics Middle Childhood Math	4-9 7-12 110100 (grade 9 only) 110000
Transition to College Mathematics 111950	A course designed for students in grades 11 or 12 who may have not previously been college-intending to make a transition to a college-preparatory program or study of mathematics. Content includes new topics and may revisit some previously addressed topics with increased emphasis on formalization, symbol manipulation, and mathematical structure.	Math	110094	Integrated Mathematics	7-12 110000
AP Calculus 119550	Based upon most current Advanced Placement program syllabus for Calculus AB or Calculus BC and prepares students for Advanced Placement examination.	Math		7-12 High School Math	
AP Statistics 119550	Based upon most current Advanced Placement program and prepares students for Advanced Placement examination.				
Applied Mathematics 110500	Covers new, high-school level content through workplace, business, and consumer contexts and applications.				99

Subject Area—Mathematics

Subject Code and Title	Subject Definition	Subject Credit Type	License Type	License Code	Licensure Area	Certification Type	Certification Code	Certification Area
Middle Childhood Mathematics 110100	Instruction in mathematics that addresses content in the grades 4-8 portion of Ohio's Model Competency-based Mathematics Program.	Math AYA	MC 110100 110094 (grades 7-8 only)	Middle Childhood Math (4-9) 110100 110094 (grades 7-8 only)	Middle Childhood Math (4-9) K-8 1-8 7-12	4-9 Middle Grades Math Kindergarten-Elementary Elementary Mathematics (7-8 only)	110100 180106 180100 110000	4-9 Middle Grades Math Kindergarten-Elementary Elementary Mathematics (7-8 only)

Subject Area—Music

Subject Code and Title	Subject Definition	License Type	License Credit	Certificate Type	Certificate Code	Certificate Area
General Music 120000	Organized subject matter and musical experiences consisting of an extensive and varied study of music designed for all pupils.	MA	120050	Music	7-12 K-12	Music 7-12 Music K-12
Music Theory 120300	The study of the principles of music, including rudiments, harmony, counterpoint, form and analysis, orchestration, and skills such as sight singing, ear training, conducting, and composing.				120010 120050	
Vocal Music 120400	Learning experiences designed for the study of vocal repertoire and the development of vocal skills through solo and choral performance.					
Instrumental Music 120500	Learning experiences designed for the study of instrumental repertoire and the development of instrumental skills through solo and group performance.					
Music Appreciation 120800	Organized subject matter and learning experiences designed to further pupils' knowledge, comprehension, and appreciation of various types and styles of music.					
AP Music 129926	An advanced course of organized subject matter and experiences emphasized in music that, upon successful completion, grants college credit to the student.					

Subject Area—Physical Education

Subject Code and Title	Subject Definition	License Type Subject Credit	License Code Subject Credit	Licensure Type License Code	Certificate Type License Code	Certificate Area
Physical Education 080300	A comprehensive subject area which incorporates fundamental motor skills, body control and balance, physical fitness, leisure sports and game skills, cognitive skills as well as stress management skills. It develops the social, emotional physical skills essential to a happy and healthy lifestyle.	PE MA	080305	PE	Physical Education (7-12) Physical Education (K-12)	7-12 K-12 080310 080305
Dance 080302	Provides students with opportunities to develop and aesthetic perception of dance as an art and an understanding of the creative process, as well as to develop technical skills and kinesthetic awareness through the artistic modes of expression and response. Instruction will emphasize the basic elements of dance: time, space, and effort (weight and energy). Activities will enable students to express personal ideas, feelings and values through dance; to learn how past and present societies have expressed their values and beliefs through dance; to respond to the dance performance of others, and to develop the body as a sensitive instrument for dance.	Dance PE MA	080302 080305	Dance PE	Physical Education (7-12) Physical Education (K-12)	7-12 K-12 080302 080314 080310 080305
Lifetime Sports 080405	Activities taught throughout the school life with emphasis on learning experiences that can be turned into healthful lifetime skills.	PE MA	080305	PE	Physical Education (7-12) Physical Education (K-12)	7-12 K-12 080310 080305
Adapted Physical Education 080505	Adapted Physical Education is specially designed instruction in physical education. According to federal law, physical education means the development of (a) physical and motor fitness (b) fundamental motor skills and patterns; and (c) skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports).	PE MA	080305	Adapted Physical Education	Adapted Physical Education Adapted Physical Education	7-12 K-12 080310 080305

*endorsement in APE is attached to a certificate in PE

Subject Area—Physical Education

Subject Code and Title	Subject Definition	Subject Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certifyicate Area
Outdoor Education 080900	A variety of outdoor leisure and sports activities, such as fishing, archery, nature study, boating, backpacking, and similar pursuits that enhance students physical health and their understanding of the natural world.	PE 080305	MA 080305	PE 080305	7-12 K-12	080900 080310 080305	Physical Education K-12 Physical Education 7-12 Outdoor Education	Physical Education K-12 Physical Education 7-12 Outdoor Education

Subject Code and Title	Subject Definition	Licenses Type	Licenses Credit	Licenses Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Science MC 131110	Integrated Middle Childhood course, which enables all students to develop standards-led fundamental abilities and concepts. Courses enable all students to develop standards-led understanding about scientific inquiry and abilities necessary to do scientific inquiry. Middle childhood standards-led science content includes: life sciences, including the structure and function in living systems, reproduction and heredity, regulation and behavior, populations and ecosystems, and diversity and adaptations of organisms; physical science, including properties and changes of properties in matter, motions and forces, and transfer of energy; and earth and space science, including structure of the earth system, earth's history, and Earth in the solar system.	Science MC	131000 132010 132020 132030 132034 132035 132036 132040 132045 132046	Middle Childhood Science Integrated Science Physical Sciences Life Sciences Life Sciences/Earth Sciences Life Sciences/Physics Life Sciences/Chemistry Earth Sciences Earth Sciences/Physics Earth Sciences/Chemistry	7-12 7-12 7-12 7-12 4-9 7-12 1-8 K-8	130000 130010 130100 130102 130175 180100 180106	Comprehensive Science (7-12) Science (7-8) General Science (7-12), Science Middle Grades (4-9) High School Comprehensive All Sciences (7-8) Elementary (1-8) Kindergarten-Elementary (K-8)	Comprehensive Science (7-12) Physics+Chemistry Biological Science+Earth Science Biological Science+Physics Biological Science+Chemistry Earth Science+Physics Earth Science+Chemistry
Integrated Science 32210	Integrated high school core courses, which develop standards-led fundamental abilities and concepts. Courses should enable all students to develop standards-led fundamental understandings about scientific inquiry and abilities necessary to do scientific inquiry. High school core standards-led science content includes: life sciences, including cell, molecular basis of heredity, biological evolution, interdependence of organisms, matter, energy, and organization in living systems, and behavior of organisms; physical science, including structure of atoms, structure and properties of matter, chemical reactions, motions and forces, conservation of energy and increase in disorder, interactions of energy and matter, and earth and space science, including energy in the earth system, geochemical cycles, origin and evolution of the earth system, and origin and evolution of the universe. (COURSE LEVEL element required.)	Science	AYA	130210 132020 132034 132035 132038 132045 132046	Integrated Science Physical Science Life Sciences/Earth Sciences Life Sciences/Physics Life Sciences/Chemistry Earth Sciences/Physics Earth Sciences/Chemistry	7-12 7-12 7-12 7-12 7-12 7-12 7-12	130000 • • • • • •	Comprehensive Science (7-12) Physics+Chemistry Biological Science+Earth Science Biological Science+Physics Biological Science+Chemistry Earth Science+Physics Earth Science+Chemistry • can be either 7-12 or 9-12

Subject Area—Science

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Physical Science 132220	Discrete high school core courses, which develop standards-led fundamental abilities and concepts. Courses should enable all students to develop standards-led fundamental understandings about scientific inquiry and abilities necessary to do scientific inquiry. The standards-led subject matter, instruction, and assessment in physical sciences includes: structure of atoms, structure and properties of matter, chemical reactions, motions and forces, conservation of energy and increase in disorder, interactions of energy and matter. (COURSE LEVEL element required.)	Science Physical Science AYA	132010 132020 132035 132045 132048	Integrated Science Physical Sciences Life Sciences/Physics Earth Sciences/Physics Earth Sciences/ Chemistry	7-12 7-12 7-12 7-12 7-12	Comprehensive Science (7-12) Chemistry (9-12) Physics (9-12) Chemistry (7-12) Physics (7-12)
Biology/Life Science 132230	Discrete high school core courses, which develop standards-led fundamental abilities and concepts. Courses should enable all students to develop standards-led fundamental understandings about scientific inquiry and abilities necessary to do scientific inquiry. The standards-led subject matter, instruction, and assessment in life sciences includes: the cell, molecular basis of heredity, biological evolution, interdependence of organisms, matter, energy, and organization in living systems, and behavior of organisms.(COURSE LEVEL element required.)	Science Biological Science AYA	132010 132030 132034 132035 132036	Integrated Science Life Sciences Life Sciences/Earth Sciences Life Sciences/Physics Life Sciences/Chemistry	7-12 7-12 7-12	Comprehensive Science (7-12) Biological Science (9-12) Biological Science (7-12)
Earth/Space Science 132240	Discrete high school core courses, which develop standards-led fundamental abilities and concepts. Courses should enable all students to develop standards-led fundamental understandings about scientific inquiry and abilities necessary to do scientific inquiry. The standards-led subject matter, instruction, and assessment in earth and space sciences includes: energy in the earth system, geochemical cycles, origin and evolution of the earth system, and origin and evolution of the universe. (COURSE LEVEL element required.)	Earth/Space Science Physical Science AYA	132010 132034 132040 132045 132046	Integrated Science Life Sciences/Earth Sciences Earth Sciences Earth Sciences/Physics Earth Sciences/Chemistry	7-12 7-12 7-12 7-12	Comprehensive Science (7-12) Earth Science (9-12) Earth Science (7-12)

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Subject Area—Science

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Area
Chemistry 132301	The study of the composition, structure, properties of and changes in matter, including the accompanying energy phenomena. (COURSE LEVEL element required.)	A/A	132010 132036 132046 132030	Integrated Science Life Sciences/Chemistry Earth Sciences/Chemistry Physical Science	7-12 7-12 7-12
Physics 132302	The study of the branch of science that is concerned with matter and energy, including the study of the phenomena associated with mechanics, heat, wave motion, sound, electricity and magnetism, light, and atomic and nuclear structure. (COURSE LEVEL element required.)	A/Y	132010 132035 132045 132030	Integrated Science Life Sciences/Physics Earth Sciences/Physics Physical Science	7-12 7-12 7-12
Intervention Science 132300	Discrete high school course, which includes little or no new content from courses previously taken by students who have taken but not yet successfully passed previous administrations of the high school Science Proficiency/Graduation test. The variety of standards-led instruction and assessment strategies used in these courses are appropriate to assist student preparation in the high school Science Proficiency/Graduation Test Student Learning Outcomes Competencies, which are derived from Ohio's Model Competency-Based Science Program.	A/Y	132010	Integrated Science Physical Science	7-12 7-12

Subject Area— Science

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Licensure Area	Certificate Area
Advanced Life Voc. AgriScience 132339	Agricultural Sciences courses as defined by Vocational Education, which meet the content criteria for the Advanced Life Science as defined by Science are granted an exception for awarding whole or partial science credit.	Science Biological Science	Vocational	010100 010100 010131 010191 010500 010600 010699 010700	AgriScience Small Animal Production & Care* Equine Science* Zoo Animal Production & Care* Horticulture* Natural Resources* Environmental Management* Forestry*	
AP-Biology 139904	An advanced course that adheres to the College Board guidelines for Advanced Placement Biology.	Science Biological Science	AYA	132010 132030 132034 132035 132036	Integrated Science Life Sciences Life Sciences/Earth Sciences Life Sciences/Physics Life Sciences/Chemistry	7-12 7-12 7-12
AP-Physics 139908	An advanced course that adheres to the College Board guidelines for Advanced Placement Chemistry.	Science Physical Science	AYA	132010 132020 132035 132045	Integrated Science Physical Science Life Sciences/Physics Earth Sciences/Physics	7-12 7-12 7-12
AP-Chemistry 139906	An advanced course that adheres to the College Board guidelines for Advanced Placement Chemistry.	Science Physical Science	AYA	132010 132020 132036 132046	Integrated Science Physical Science Life Sciences/Chemistry Earth Sciences/Chemistry	7-12 7-12 7-12

Subject Area—Social Studies

Subject Code and Title	Subject Definition	License Type	Subject Credit	License Code	Licensure Type	Licensure Area	Certificate Type	Certificate Code	Certificate Area
150100 Anthropology	The study of man in relation to distribution, origin, classification, and relationship of races, physical character, environmental and social relations, and culture.	A/YA	150004	Integrated Social Studies	7-12 7-12 7-12	150150 150100 150002	Anthropology (9-12) Anthropology (7-12) Comprehensive Social Studies (7-12)		
159910 AP Economics	Advanced course of organized subject matter and experiences emphasized in economics following the Advanced Placement curriculum. (Macroeconomics, microeconomics)	Social Studies	A/YA	150004	Integrated Social Studies	7-12 7-12 7-12	150650 150800 150002	Economics (9-12) Economics (7-12) Comprehensive Social Studies (7-12)	
159918 AP Government Politics	The study of institutions and processes through which decisions are made for a society following the Advanced Placement curriculum. (Cooperative Gov't & Politics, U.S. Gov't & Politics)	Social Studies	A/YA	150004	Integrated Social Studies	7-12 7-12 7-12	151110 151100 150002	Political Science (9-12) Political Science (7-12) Comprehensive Social Studies (7-12)	
159920 AP History	The study of change and continuities in the course of the human past following the Advanced Placement curriculum. (European History, U.S. History)	Social Studies	A/YA	150004	Integrated Social Studies	7-12 7-12 7-12	150805 150800 150002	History (9-12) History (7-12) Comprehensive Social Studies (7-12)	
150600 Economics	The study of how society uses its resources to satisfy the desires of its citizens for goods and services.	Social Studies	A/YA	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 7-12 7-12	150650 150600 150002 150003	Economics (9-12) Economics (7-12) Comprehensive Social Studies (7-12) Middle Childhood Social Studies (grade 9 only)	
150700 Geography	The study of spatial aspects of human existence.	Social Studies	A/YA	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 7-12 4-9	150710 150700 150002 150003	Geography (9-12) Geography (7-12) Comprehensive Social Studies (7-12) Middle Grades Social Studies (grade 9 only)	
150300 Government	The study of institutions and processes through which decisions are made for a society.	Social Studies	A/YA MC	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 4-9	150002 151800 151110 150003	Comprehensive Social Studies (7-12) Government (7-12) Political Science (7-12) Middle Grades Social Studies (grade 9 only)	
150810 American History	The study of knowledge which deals with our nation's past.	Social Studies	A/YA	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 4-9	150805 150800 150002 150003	History (9-12) History (7-12) Comprehensive Social Studies (7-12)	
150800 World History	The study of knowledge which deals systematically with our past from different parts of the world.	Social Studies	A/YA	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 4-9	150800 150002 150003	History (7-12) Comprehensive Social Studies Middle Grades Social Studies (grade 9 only)	

Subject Area—Social Studies

Subject Code and Title	Subject Definition	License Type	License Credit	Licensure Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Humanities 150900	The study of cultural achievements and societal values through the integration of literature, the arts, religion, history, philosophy, and languages as well as other social studies disciplines.	A/Y M/C A/Y	AYA MC AYA	150004 150003 050145	Integrated Social Studies Middle Childhood Social Studies (grade 9 only) Integrated Language Arts	7-12 7-12 7-12 7-12 7-12 7-12	150002 150900 159901 150805 150800 150003 050000 050012	Comprehensive Social Studies (7-12) Comprehensive Humanities (7-12) Comprehensive Communications (7-12) History (9-12) History (7-12) Middle Childhood Social Studies (grade 9 only) English (7-12) English (9-12)
Psychology/Social Psychology 150205	The study of the human mind and its influence on behavior.	A/Y	AYA	150004	Integrated Social Studies	7-12 7-12 7-12	151215 151205 151220 150002	Psychology/Sociology (7-12) Social Psychology (7-12) Social Psychology (9-12) Comprehensive Social Studies (7-12)
Social Studies (7-8) 151201	The integrated study of the social sciences and humanities. (for grades 7-8)	A/Y M/C	AYA MC	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 4-9	150310 150003	Comprehensive Social Studies (7-8) Middle Grades Social Studies (grade 9 only)
Sociology 151300	The study of group behavior in societies, social relationships, and social institutions.	A/Y M/C	AYA MC	150004 150003	Integrated Social Studies Middle Childhood Social Studies (grade 9 only)	7-12 7-12 4-9	151300 151215 150002 151205 150003	Psychology/Sociology (9-12) Psychology/Sociology (7-12) Comprehensive Social Studies (7-12) Social Psychology (7-12) Middle Grades Social Studies (grade 9 only)

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licenses Type	Licenses Credit	Licenses Code	Licenses Type	Licenses Area	Certificate Type	Certificate Code	Certificate Area	
Industrial and Engineering 170001	A 9th and/or 10th grade career pathway foundations course that is a component of a series of academic, technological, employability and occupational courses leading to Industrial or Engineering career major. Revised 5/13/98. Single period semester or year-long course.	Vocational	160610	170100	170200 170301 170302 170303 170400 170401 170403 170600 170700 170801 170802 170900	Technology Education	7-12 K-12 7-12 K-12 7-12	100000 100005 101315 101320 102000	Industrial Arts Industrial Arts (K-12) Industrial Technology (7-12) Industrial Arts (7-12)	
Workforce Readiness Program 170050	Classroom and laboratory experiences designed for students with exceptionalities who are not prepared for the rigors of occupationally specific work force development programs. Program content includes basic elements of laboratory experiences identified from the approved curriculum of one or more Trade and Industrial programs offered in the district, or programs the district has plans for offering. Laboratory experiences might include basic concepts of carpentry, masonry, or electricity in preparation for a specialization in the construction trades cluster, or welding, precision machining, or drafting in preparation for a specialization in the manufacturing cluster. Course content shall also include communication and teamwork, math and measurement, workplace safety and health, blueprint reading, manufacturing fundamentals, and workplace skills. This program should be developed to maximize the use of instructional strategies that link applied academics to laboratory experiences.	Voc			170100 170200 170301 170302 170303 170400 170401 170403 170600 170700 170801 170802 170900	Heating, Air Conditioning, and Refrigeration Technician Appliance Repair Automotive Collision Repair Automotive Technology Automotive Specialization Aviation Occupations Aircraft Maintenance Ground Operations Business Machine Maintenance Commercial Art Occupations Maritime Occupations Marine Maintenance Commercial Photography Occupations Carpentry Electrical Trades Heavy Equipment (Construction) Masonry Painting and Decorating Plumbing and Pipefitting Building and Property Maintenance Industrial Maintenance & Repair Occupations		170100 170200 170301 170302 170303 170400 170401 170403 170600 170700 170801 170802 170900 171001 171002 171003 171004 171005 171007 171011 171012 171013	Heating, Air Conditioning, and Refrigeration Technician Appliance Repair Automotive Collision Repair Automotive Technology Automotive Specialization Aviation Occupations Aircraft Maintenance Ground Operations Business Machine Maintenance Commercial Art Occupations Maritime Occupations Marine Maintenance Commercial Photography Occupations Carpentry Electrical Trades Heavy Equipment (Construction) Masonry Painting and Decorating Plumbing and Pipefitting Building and Property Maintenance Industrial Maintenance & Repair Occupations	Heating, Air Conditioning, and Refrigeration Technician Appliance Repair Automotive Collision Repair Automotive Technology Automotive Specialization Aviation Occupations Aircraft Maintenance Ground Operations Business Machine Maintenance Commercial Art Occupations Maritime Occupations Marine Maintenance Commercial Photography Occupations Carpentry Electrical Trades Heavy Equipment (Construction) Masonry Painting and Decorating Plumbing and Pipefitting Building and Property Maintenance Industrial Maintenance & Repair Occupations

Object Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licenses Types	Licenses Codes	Certificate Types	Certificate Codes	Certificate Area
Workforce Readiness Program 170050	Vocational 7-12 K-12 7-12	172305 172306 172307 172700 172801 172802 172808 173100 173601 179962	Sheet Metal Welding & Cutting Tool and Die Making Plastics Occupations Fire Fighter Training (Paid) Criminal Justice Power Equipment Technology Millwork and Cabinet Making Hazardous Materials Management Technology	Voc	172305 172306 172307 172700 172801 172802 173100 173601 179962	Air Conditioning/Heating
Air Conditioning, Heat and Refrigeration Technician 170100	Voc	170100	Air Conditioning/Heating		170100	Air Conditioning/Heating
Appliance Repair 170200					170200	Major Appliance Repair

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licenses Types	Licenses Codes	Certificate Types	Certificate Codes	Certificate Area
Auto Collision Repair 170301	Specialized learning experiences concerned with all phases of the repair of damaged bodies, fenders, including metal straightening by hammering; smoothing areas by filing, grinding, or sanding; concealment of imperfections; painting; and replacement of body components, including trim. The instructor and the program must be ASE certified in Structural Analysis and Damage Repair plus 3 of the 4 optional areas. Revised 5/13/98.	Voc	170301	Automotive Collision Repair	170301	Automotive Collision Repair
Auto Technology 170302	Learning experiences concerned with the components of the vehicle, including engine, transmissions, steering, suspension, brakes, and electrical/electronic systems. Included is training in the use of diagnostic and testing equipment and tools used in the repair process. The instructor and the program must be ASE certified in Brakes, Engine Performance, Electrical/Electronic Systems, and Suspension and Steering plus 2 of the 4 optional areas. Revised 5/13/98.	Voc	170302	Automotive Technology	170302	Automotive Technology
Auto Specialization 170303	Learning experiences that involve more detailed training in the adjustment and repair of the automobile, including the cooling system, transmission, fuel system, brake system, and other units to provide greater proficiency in the servicing of selected components. The school requesting this program must have an ASE certified Auto Technology program in place. This is a one-year program. Revised 5/13/98.	Voc	170302 170303	Automotive Technology Automotive Specialization	170302 170303	Automotive Technology Automotive Specialization
Aviation Occupations 170400	Classroom and practical experiences that include instruction relating to aircraft maintenance, aircraft operation, and ground support. Instructor and program must be certified by the Federal Aviation Administration (FAA) in appropriate subject areas. Revised 5/13/98.	Voc	170400 170401	Aviation Occupations Aircraft Maintenance	170400 170401	Aviation Occupations Aircraft Maintenance

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Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Credit	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Aircraft Maintenance 170401	Classroom and lab learning experiences concerned with the inspection, repair, servicing, and overhauling of all airplane parts, including engines, propellers, instruments, airframes, fuel and oil tanks, control cables, and hydraulic units. Involves learning the use of technical manuals and various kinds of testing equipment. Instructor and program must be certified by the Federal Aviation Administration (FAA) in airframe and power plant. Revised 5/13/98.	Vocational	170401	Aircraft Maintenance	Aircraft Maintenance	170401	
Ground Operations 170403	Classroom and practical experiences concerned with the ground support of commercial aircraft (passenger and cargo). Experiences will include passenger service, including baggage handling, ticket agent, aircraft preflight/post-flight service, and ground control traffic control. Revised 5/13/98.	Voc	170403	Ground Operations	Ground Operations	170403	
Business Machine Maintenance 170600	Classroom and shop learning experiences concerned with maintaining and repairing a variety of office machines, such as electronic typewriters, dictation machines, calculators, and data processing equipment used for correspondence, recording and data processing, duplicating, and mailing. Instruction includes diagnostic techniques; mechanical principles, nomenclature; use and care of special hand and power tools; soldering; mechanical drawing; principles of electricity and electronics; use of testing devices; business procedures; and customer relations. Revised 5/13/98.		170600	Business Machine Maintenance	Business Machine Maintenance	170600	
Commercial Art Occupations 170700	Organized specialized learning experiences that include theory and laboratory and shop work as they relate to the design and execution of layouts and illustrations for advertising, display, and instructional manuals. Instruction includes advertising theory and preparation of copy, lettering, poster design, fashion illustration, silk-screen, (con't next page)		170700	Commercial Art Occupations	Commercial Art Occupations	170700	

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Elect Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Subject Code	Subject Definition	License Type	License Code	Certificate Type	Certificate Area				
Commercial Art Occupation	Air brush and touch-up; inks and color dynamics, package and product design, drawings for line and halftone reproduction, and other display devices and exhibits. Instruction leads to preparation for various types of employment such as Fashion Illustrator, Technical Illustrator, Interior Decorator, and Advertising Artist. Revised 5/13/98.	Vocational	Voc	170700	Commercial Art Occupations	170700	Commercial Art Occupations	Voc	170801	Maritime Occupations	170801	Maritime Occupations	Voc	170801	Maritime Occupations
Maritime Occupations 170801	Organized learning experiences concerned with skills for water transportation, including the use and maintenance of line and nets, navigational aids, and radio and fundamental electronic equipment; techniques for survival at sea, and weather forecasting; and fundamental maintenance of decks and surfaces, engines, and power plants.					170801					170801	Maritime Occupations			
Marine Maintenance 170802	Specialized classroom and laboratory experiences concerned with the repair and maintenance of electrical and mechanical equipment, and the structural repair of inboard and inboard-outboard motor boats, yachts, tugs, and barges. Revised 5/13/98.					170802					170802	Marine Maintenance			
Commercial Photography Occupations 170900	Organized specialized learning experiences that include theory, laboratory, and studio work as each relates to all phases of camera uses and photographic processing. Instruction includes composition and color dynamics; contact printing and enlarging; film development; air-brush and retouching; coloring; copying; utilization of camera, meters, and other photographic equipment. Areas of study include portrait, commercial, and industrial photography, leading to employment as a Commercial Photographer, Airbrush Artist, Camera person (offset printing), Audio-Visual Projectionist, and Camera person (broadcasting).					170900					170900	Commercial Photography Occupations			

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type Credit	License Code Type	Licensure Area Code	Certificate Type Code	Subject Definition
Carpentry 171001	Classroom and laboratory experiences involving the layout, construction, and repair of residential and commercial structures. Included is instruction in the care and use of power tools, equipment, and materials used in the construction process; floor, wall, ceiling, and roof framing; the installation of insulation and roofing; and interior and exterior finish detail. Curriculum is based on the Occupational Competency Analysis Profile (OCAP) for Carpentry. Revised 5/13/98.	Vocational	171001	Carpentry	Carpentry	
Electrical Trades 171002	Specialized classroom and laboratory experiences concerned with the layout, assembly, installation, testing, and maintenance of electrical fixtures and apparatus, and the wiring used in electrical systems. Instruction is provided in worksite safety, electrical principles, the application of codes and standards; residential, commercial, and industrial installations including motors and specialized systems; and the reading, interpretation, and application of blueprints and wiring diagrams. A one-year program option is available with an exit in residential wiring, or with an exit in commercial/industrial wiring upon the recommendation of the local board of education. Curriculum is based on the Occupational Competency Analysis Profile (OCAP) for Electrical Trades. Revised 5/13/98.	Vocational	171002	Electrical Trades	Electrical Trades	
Heavy Equipment (Construction) 171003	Classroom and practical work experiences concerned with the operation, maintenance, and repair of heavy-duty construction equipment, such as bulldozers, backhoes, cranes, graders, tractors, concrete mixers, crawler-mounted shovels, trailer-mounted compressors, and the gasoline or diesel engines powering the equipment. Revised 5/13/98.		171003	Heavy Equipment (Construction)	Heavy Equipment (Construction)	

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Masonry 171004	Specialized classroom and laboratory experiences concerned with the cutting, chipping, and fixing in position of brick and concrete block. Included is instruction in the care and use of tools, equipment, and materials for the preparation and performance of masonry construction; the selection and preparation of materials used in the laying of brick and block; and training in blueprint reading, record keeping, estimating, and safety. Curriculum is based on the Occupational Competency Analysis Profile (OCAP) for Masonry. Revised 5/13/98.	Vocational	171004	Masonry	Masonry	
Painting and Decorating 171005	Specialized classroom and laboratory experiences concerned with the preparation in finishing of exterior and interior surfaces by the application of protective or decorative coating materials, such as lacquer, paint, and wallpapers. Included is instruction in the scraping, burning, or sanding surfaces; making, mixing, and matching paints and colors; applying coatings with brush, roller, or spray gun; and by cutting, pasting, and hanging wallpaper. Emphasis is on the selection, use and storage of materials in compliance with all state and federal environmental regulations. Revised 5/13/98.	Voc	171005	Painting and Decorating	Painting and Decorating	
Plumbing and Pipefitting 171007	Specialized classroom and laboratory experiences concerned with layout, assembly, installation, alteration, and repair of piping systems and related fixtures and fittings. Included is instruction in the use of pipe-cutting, bending, grooving, and threading tools; the maintenance and use of welding, soldering, and brazing equipment; the care and safe use of hand and power tools and equipment; and the reading, interpretation, and application of blueprints and piping diagrams. Revised 5/13/98.		171007	Plumbing and Pipefitting	Plumbing and Pipefitting	

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Credit	Vocational	Voc	171011	Building and Property Maintenance	Building and Property Maintenance	171011	Building and Property Maintenance	Building and Property Maintenance	Voc	171011	Building and Property Maintenance	Building and Property Maintenance	
Subject Code and Title	Subject Definition	License Type	License Credit	Vocational	Voc	171011	Building and Property Maintenance	Building and Property Maintenance	171012	Industrial Maintenance	Industrial Maintenance	171013	Resilient Floor Installation	Resilient Floor Installation	Resilient Floor Installation	
Building and Property Maintenance 171011	<p>Organized learning experiences in the classroom and laboratory concerned with the skills necessary to keep the physical structure of an office building, factory, apartment building, house, or similar structure in good repair. Included is instruction in carpentry; roofing, application and repair; ceramic tile and masonry application and repair; electrical installation and repair; painting and wallpapering; and plumbing.</p> <p>Curriculum is based on the Occupational Competency Analysis Profile (OCAP) for Building and Property Maintenance. Revised 5/13/98.</p>					171011	Building and Property Maintenance	Building and Property Maintenance	171012	Industrial Maintenance			171013	Resilient Floor Installation		
Industrial Maintenance and Repair Occupations 171012	<p>Organized learning experiences in the classroom and shop concerned with the maintenance of machinery and mechanical equipment of an industrial plant or factory. Inspection, disassembly, repair, and reassembly of machines and equipment is included in the training experience. Skill training in the use of tools from several trades is also included.</p>					171012	Industrial Maintenance	Industrial Maintenance	171013	Resilient Floor Installation			171013	Resilient Floor Installation		
Resilient Floor Installation 171013	<p>Classroom and laboratory experiences involving the layout, construction, and repair of inlaid, hardwood, or composition floors, and laying asphalt, carpet, cork, linoleum, and rubber blocks or sheet materials. Included is instruction in the care and use of tools, equipment, and materials used in the installation process; the disconnection and removal of obstacles; the cleaning, scraping, and sanding of surfaces to provide a clean, smooth foundation; the measuring and cutting of materials according to blueprints and sketches; the spreading of adhesives or cement to the prepared foundation; and the laying of the floor covering. Revised 5/13/98</p>															

ject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Manufactured Home Servicing 17016	Classroom and laboratory experiences concerned with the repair of defective units and systems in mobile, modular, and prefabricated homes and travel trailers. Instruction includes using hand tools and power tools; identifying and repairing leaks and structural damage; locating and repairing damaged plumbing and electrical systems; applying interior and exterior finishes; providing upgrades to existing mechanical systems; and repairing or replacing furnishings. Revised 5/13/98.	Vocational	17016	Manufactured Home Servicing	171016	Manufactured Home Servicing
Custodial Services 171100	Organized learning experiences in the classroom and laboratory concerned with the skills necessary to provide all phases of care and cleaning of buildings; including fixtures, furnishings, and building interiors. Included is instruction in the care and maintenance of such materials linoleum, plastic, terrazzo, tile, and wood floors; rugs and carpet; plastic, wood panel, paint, and synthetic wall coatings; and the use and care of hand and power tools. Additional emphasis is placed on (1) characteristics of various cleaning agents and protective coating, including their reactions on surfaces, and procedures for applying them; (2) sanitation and disinfectants; (3) work scheduling; and (4) purchase of custodial supplies. Revised 5/13/98.	Voc	171100	Custodial Services	171100	Custodial Services

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Medium/Heavy Truck Technician 171200	An instructional program that prepares individuals to engage in the service and repair of truck vehicles. Instruction is included in the diagnosis, maintenance, and repair of diesel engines, including fuel injection systems, the drive train, suspension, brakes, hydraulic units, cooling systems, and electrical/electronic systems. The program also includes the study and use of technical manuals, testing and diagnostic equipment, and a variety of hand and power tools. The program and the instructor must be ASE certified in Diesel Engines, Suspension and Steering, Brakes, Electrical/Electronic Systems, Preventive Maintenance Inspection. Revised 5/13/98	Vocational	171200	Medium/Heavy Truck Technician	171200	Medium/Heavy Truck Technician
Drafting Occupations 171300	Specialized learning experiences that include theory, laboratory and shop work, as each relates to the gathering and translation of data or specifications; and the planning, preparation, and interpretation of mechanical and/or architectural drawings and sketches. Instruction includes experiences with board and computer generated drawing reproduction materials, equipment, and processes; systemic drafting office procedures; the preparation of reports and data sheets for specifications writing; the development of plan and process charts and drawings; and model development. Instruction emphasizes the development of skills and knowledge essential for employment in ancillary capacities, such as tracers or reproduction equipment operators, and for occupations such as Mechanical Drafter, Structural Drafter, Detailer, Marine Drafter, Tool Designer, Fixture Designer, and Punch and Die Designer and various C.A.D. positions. Revised 5/13/98.	Drafting Occupations	171300	Drafting Occupations	171300	Drafting Occupations

Elect Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licensure Area	Certificate Type	Certificate Code
Power Transmission 171402	Specialized classroom and laboratory experiences concerned with erecting and maintaining power lines and circuits for transmission and distribution of electrical power, and assembling and erecting related equipment and structures. Revised 5/13/98.	Vocational	Power Transmission	171402 Power Transmission
Motor Repair 171403	Specialized classroom and practical learning experiences concerned with the assembly, installation, testing, maintenance, and repair of electric motors, generators, transformers, and related equipment.	Voc	Motor Repair	171403 Motor Repair
Electronics 171503	Classroom, laboratory, and practical learning experiences that include both theory and practice. Students learn construction, maintenance, and repair of digital, analog, and microprocessor circuits in applications such as communications equipment, consumer equipment, and industrial equipment.	Electronics	Electronics	171503 Electronics
Telecommunications 171504	Specialized classroom and laboratory experiences concerned with the assembly, installation, operation, maintenance, and repair of telecommunications equipment, which includes pole and tower climbing and construction; pulling, and splicing of cable, including fiber optic; material estimating and job planning; installation and troubleshooting procedures of PBX systems, and field repair of telecommunications systems and equipment. Revised 8/18/98.	Telecommunications	Telecommunications	171504 Telecommunications

Object Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Credit	License Code	Certificate Type	Certificate Code	Certificate Area
Computer Network Technology 171505	Classroom and laboratory experiences that include both the theory and the practice of design, installation, maintenance, and repair of computer networks. Instruction includes the installation, termination, and verification of cabling systems, including fiber optic systems, for establishing Local Area Networks (LANS) and Wide Area Networks (WANS); and the maintenance of both hardware and software to insure efficient operation of those installations. Revised 8/18/98.	Vocational	171505	Computer Network Technology	Voc	171505	Computer Network Technology
Engineering Technology 171801	A combination of subject matter and experiences designed to prepare a person to gain entry level experiences in an engineering technology cluster program. Students have the option of pursuing a two-year Associate's Degree. The program will follow an approved TCAP and will identify related employment positions locally available for students exiting Tech-Prep after high school phase. Revised 5/13/98.	Drafting Occupations Electronics Engineering Technology limited to Drafting Engineering Technology limited to Electricity Engineering Technology limited to Electronics Engineering Technology limited to Machine Trades Engineering technology limited to Industrial Maintenance Precision Machining	171300 171503 171801 w/ 888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	171300 171503 888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	Drafting Occupations Electronics Engineering Technology limited to Drafting Engineering Technology limited to Electricity Engineering Technology limited to Electronics Engineering Technology limited to Machine Trades Engineering technology limited to Industrial Maintenance Precision Machining	171300 171503 888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	Drafting Occupations Electronics Engineering Technology limited to Drafting Engineering Technology limited to Electricity Engineering Technology limited to Electronics Engineering Technology limited to Machine Trades Engineering technology limited to Industrial Maintenance Precision Machining
Manufacturing Engineering Technology 171802	In this program students master mathematical and scientific principles and technical skills in support of the design, development, and use of integrated industrial manufacturing systems and processes; includes problem solving in design, integration, and prototype testing, systems logistics and material flow, calibration and maintenance of instruments, statistical process control and production coordination, operational and maintenance procedures, as well as operational diagnosis and repair. Students have the option of pursuing a two-year Associate's Degree. The program will follow an approved TCAP and will identify related employment positions locally available for students exiting Tech-Prep after the high school phase. Revised 5/13/98.	Industrial Maintenance Drafting Occupations Electronics Manufacturing Engineering Technology limited to Drafting Manufacturing Engineering Technology limited to Electricity Manufacturing Engineering Technology limited to Electronics Manufacturing Engineering Technology limited to Machine Trades Manufacturing Engineering Technology limited to Industrial Maintenance Precision Machining	171012 171300 171503 171802 w/888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	171012 171300 171503 171802 w/ 888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	Industrial Maintenance Drafting Occupations Electronics Manufacturing Engineering Technology limited to Drafting Manufacturing Engineering Technology limited to Electricity Manufacturing Engineering Technology limited to Electronics Manufacturing Engineering Technology limited to Machine Trades Manufacturing Engineering Technology limited to Industrial Maintenance Precision Machining	171012 171300 171503 171802 w/ 888110 171801 w/ 888115 171801 w/ 888120 171801 w/ 888125 171801 w/ 888130 172302	Industrial Maintenance Drafting Occupations Electronics Manufacturing Engineering Technology limited to Drafting Manufacturing Engineering Technology limited to Electricity Manufacturing Engineering Technology limited to Electronics Manufacturing Engineering Technology limited to Machine Trades Manufacturing Engineering Technology limited to Industrial Maintenance Precision Machining

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type Credit	License Code	Certificate Type Code	Certificate Area
Graphic Occupations 171900	Specialized learning experiences that include theory, laboratory and shop work as they relate to all phases of layout, composition, presswork, and binding, including flexography, lithography, photogravure, and other techniques related to the printing industry. Emphasis is placed on camera platework imposition, offset press makeup and operation, paper cutting, ink and color preparation, binding, and production by silk-screen process. Emphasis is placed in desktop publishing including digital image and electronic process procedures. Instruction leads to preparation for various types of employment, such as Compositor, Photographer, Platemaker, Cost Analyst, Expediter, Production Planner, and Computer Assisted Layout. Programs must be accredited by Print Ed (PIA) by the year 2000. Revised 5/13/98.	Vocational	Voc	171900	Graphic Occupations
Chemical Lab Assisting 172000	Specialized classroom and laboratory experiences organized to prepare a person to perform the quantitative, qualitative, and analytical analysis of human or naturally occurring substances in a chemical laboratory. Revised 5/13/98. Specialized classroom and laboratory experiences organized to prepare a person to perform the quantitative, qualitative, and analytical analysis of human or naturally occurring substances in an industrial laboratory. Revised 5/13/98.		172000	Graphic Occupations	Graphic Occupations
Industrial Assisting 172004	Specialized classroom and shop learning experiences that are concerned with all aspects of shaping metal parts. Instruction involves making computations relating to work dimensions, tooling, feeds, and speeds of machining. Also emphasized is work on the bench, lathes, shapers, milling machines, grinders, and drills; the use of precision measuring instruments, such as layout tools, micrometers, and gauges; methods of machining and heat treatment of (con't. next page)		172004	Voc	Graphic Occupations
Industrial Assisting 172004					Industrial Assisting

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Credit Type	License Code	Licensure Area	Certificate Type	Certificate Code	Subject Area
Industrial Lab Assisting 172004	Various metals; blueprint reading; and the layout of machine parts. Instruction prepares the learner to operate and repair all machines including those with computerized numerical controls (CNC). Programs will be certified by National Institute for Metalworking Skills (NIMS). Revised 5/13/98.	Vocational	172004	Industrial Asst	Voc	172004	Industrial Asst
Precision Machining 172302	Specialized learning experiences to prepare a semi-skilled worker for entry level positions in diverse manufacturing occupations not specifically addressed in the OCAPS, TCAPS, or ITACs. Revised 8/18/98.	Vocational	172302 172307	Precision Machining Tool/Die Making	Voc	172302	Precision Machining
Manufacturing Occupations 172303	Specialized learning experiences to prepare the student to be a metal worker capable of fabricating and assembling a variety of products in many industries. Instruction includes layout; sequence of operating fabricating machines; positioning, alignment, fitting, and welding together of parts; and the design and construction of templates and fixtures.	Vocational	171012 172302 172303 172307	Industrial Maintenance Precision Machining Manufacturing Operations Tool/Die Making	Voc	171012 172302 172303 172307	Industrial Maintenance Precision Machining Manufacturing Operations Tool/Die Making
Heavy Metal Fabrication 172304	Specialized classroom and shop-learning experiences that are concerned with layout, fabrication, erection, installation, and maintenance of items made of steel, copper, stainless steel, and aluminum, such as ventilating, air-conditioning, and heating ducts; kitchen equipment; signs; furniture; and sky-lights. Instruction includes the use of hand tools and machines such as corncise brake, forming rolls, and squaring shears; drafting; and blueprint reading.	Vocational	172304 172306	Heavy Metal Fabrication Welding and Cutting	Voc	172304 172306	Heavy Metal Fabrication Welding and Cutting
Sheet Metal 172305	Specialized classroom and shop-learning experiences that are concerned with all types of metal welding, brazing, and flame cutting. Instruction emphasizes properties of metals, blueprint reading, electrical principles, welding symbols, and mechanical drawing.	Vocational	172305	Sheet Metal	Voc	172305	Sheet Metal

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Credit Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Type	Certificate Code	Certificate Area
Welding and Cutting 172306	All welding programs will be certified in Level I of the American Welding Society's Schools Excelling Through National Skill Standards Education (S.E.N.S.E.) program by year 2000. Revised 5/13/98.	Vocational	Voc	172306	Welding and Cutting	Welding and Cutting
Tool & Die Making 172307	Organized classroom and shop learning experiences concerned with analyzing specifications, laying out metal stock, setting up and operating machine tools, and fitting and assembling parts to make and repair metal working dies, cutting tools, jigs, fixtures, gauges, and machinist's hand tools. Includes instruction in application of tool and die design and construction, shop mathematics; metal properties, layout, machining, and assembly procedures.			172307	Tool & Die Making	Tool & Die Making
Barbering 172601	Classroom and practical learning experiences that are concerned with haircutting and styling, shaving, shampooing, and massaging. Emphasis is on hygiene, skin and scalp diseases, and sterilization of instruments and utensils. Instruction is designed to qualify pupils for licensing examinations. Programs must be approved by the Ohio State Barber Board. Revised 5/13/98.			172601	Barbering	Barbering
Cosmetology 172602	Classroom and practical learning experiences that are concerned with a variety of beauty treatments, including the care and beautification of the hair, complexion, and hands. Instruction includes shampoos, rinses, and scalp treatments; hair styling, setting, cutting, dyeing, tinting, and bleaching; permanent waving; facials; manicuring; and hand and arm massaging. Bacteriology, anatomy, hygiene, sanitation, salon management (including keeping records), and customer relations are emphasized. Instruction is designed to (con't. next page)			172602	Cosmetology	Cosmetology

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licensure Type Code	Certificate Type Code	Certificate Area
Plastics Occupations 172700	Classroom and laboratory experiences dealing with plastics and their characteristics. Instruction includes the molding, lifting, internal carving, and finishing of plastic and fiber glass materials into products. Included is preparation for production associates, set-up and maintenance persons, and quality assurance technicians. Revised 5/13/98.	Vocational	Voc	Plastic Occupations
Fire Fighter Training 172801	Specialized classroom and practical experiences concerned with the preparation of paid, full-time fire fighters. Instruction includes fire department organization; safety; fire alarm and communications; fire behavior; portable extinguishers; personal protective equipment; forcible entry; ventilation; rope; ladders; fire hose, appliances, and streams; foam fire streams; fire control; salvage; overhaul; emergency medical care; rescue; water supplies; sprinklers; response to hazardous materials incidents; fire prevention, public education, and fire cause determination; and building construction. The training institution must be chartered by the Department of Public Safety, Division of EMS, and the program must be approved by the Department of Public Safety, Division of EMS. Revised 5/13/98.			Fire Fighter Training
Criminal Justice 172802	Specialized classroom and practical-learning experiences that are designed to supplement the training provided by officially designated law enforcement agencies. Instruction includes acquiring and maintaining the uniform; patrolling on foot or in an automobile during the day or night; dealing with misdemeanors, felonies, traffic violations, and (cont. next page)	7-12	7-12	Criminal Justice Private Security
150		K-12	K-12	Law Enforcement
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Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type Code	Licensure Area	Certificate Type Code	Certificate Area
Criminal Justice 172802 (continued)	accidents, making arrests, and testifying in court; legal aspects; defensive tactics; private security; occupational and health safety; and civil emergencies. Program certified by the Ohio Peace Officers Training Commission for Private Security (135 Hrs.) and/or certified in Basic Peace Officer Training (445-475 Hrs.).	Vocational	172802 172808	Criminal Justice Private Security	Voc
Power Equipment Technology 173100	Classroom and shop experiences concerned with maintaining and repairing a variety of portable power equipment, e.g., lawnmowers, outboard motorboats, chain-saws, and rototillers. Instruction includes principles of internal combustion engine operation, reading technical manuals, and customer relations. One-year specialization program may be approved in small engine repair and servicing under this course code.		173100	Power Equipment Technology	
Millwork and Cabinet Making 173601	Classroom and laboratory experiences involving the mass production of products such as window frames, moldings, trim, and panels; and the manufacture of such products as furniture, store fixtures, kitchen cabinets, and office furnishings. Instruction includes blueprint reading and sketching; job planning and layout; the identification and selection of woods and finishes; cutting, shaping, and assembling parts by means of hand tools and wood-working machines; installing hardware; and refinishing furniture. Revised 5/13/98.		173601	Millwork & Cabinet Making	
Diversified Cooperative Training (DCT) 179960	This is a specialized program designed for high school students who are at least 16 years of age and are in their final year of high school. The program allows students who are enrolled in Trade and Industrial/Health Occupations education to experience the world of work and to receive high school credits		160610 w/600120	Technology Education w/vocational worksite teacher/coordinate endorsement.	
					100000 w/ 600120 100005 w/ 600120
					101315 w/ 600120
					101320 w/ 600120 102000 w/ 600120

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Credit	License Types	License Code	Licensure Area	Certificate Type	Certificate Area
Diversified Cooperative Training (DCT) 179360 (continued)	ment becomes an extension of the vocational classroom. Students receive experiences to aid them in making the transition from school to work. The students on-the-job training is closely supervised and coordinated between the school and place of employment. Students receive monetary compensation (for work performed for their employers), while receiving on-the-job training in various occupations administered by the Trade and Industrial/Health Occupations Education service area. Revised 5/13/98.	Vocational	160610 w/ 600120	Technology Education w/vocational worksite teacher/coordinate endorsement	Voc	170100 w/ 600120	Industrial Technology (K-12) w/vocational worksite teacher/coordinate endorsement
			170100 w/ 600120	Technology Education w/vocational worksite teacher/coordinate endorsement		170200 w/ 600120	Industrial Arts (7-12) w/vocational worksite teacher/coordinate endorsement
			170200 w/ 600120	Heating, Air Conditioning, and Refrigeration Technician w/vocational worksite teacher/coordinate endorsement		170301 w/ 600120	Technology Education w/vocational worksite teacher/coordinate endorsement
			170301 w/ 600120	Appliance Repair w/vocational worksite teacher/coordinate endorsement		170302 w/ 600120	Heating, Air Conditioning, and Refrigeration Technician w/vocational worksite teacher/coordinate endorsement
			170302 w/ 600120	Automotive Collision Repair w/vocational worksite teacher/coordinate endorsement		170303 w/ 600120	Appliance Repair w/vocational worksite teacher/coordinate endorsement
			170303 w/ 600120	Automotive Technology w/vocational worksite teacher/coordinate endorsement		170401 w/ 600120	Automotive Collision Repair w/vocational worksite teacher/coordinate endorsement
			170400 w/ 600120	Automotive Specialization w/vocational worksite teacher/coordinate endorsement		170403 w/ 600120	Automotive Technology w/vocational worksite teacher/coordinate endorsement
			170401 w/ 600120	Aviation Occupations w/vocational worksite teacher/coordinate endorsement		170600 w/ 600120	Automotive Specialization w/vocational worksite teacher/coordinate endorsement
			170403 w/ 600120	Aircraft Maintenance w/vocational worksite teacher/coordinate endorsement		170401 w/ 600120	Aviation Occupations w/vocational worksite teacher/coordinate endorsement
			170403 w/ 600120	Ground Operations w/vocational worksite teacher/coordinate endorsement		170403 w/ 600120	Aircraft Maintenance w/vocational worksite teacher/coordinate endorsement
			170600 w/ 600120	Business Machine Maintenance w/vocational worksite teacher/coordinate endorsement		170700 w/ 600120	Ground Operations w/vocational worksite teacher/coordinate endorsement
			170700 w/ 600120	Commercial Art Occupations w/vocational worksite teacher/coordinate endorsement		170801 w/ 600120	Business Machine Maintenance w/vocational worksite teacher/coordinate endorsement
			170801 w/ 600120	Maritime Occupations w/vocational worksite teacher/coordinate endorsement		170802 w/ 600120	Commercial Art Occupations w/vocational worksite teacher/coordinate endorsement
			170802 w/ 600120	Marine Maintenance w/vocational worksite teacher/coordinate endorsement			Maritime Occupations w/vocational worksite teacher/coordinate endorsement
							Marine Maintenance w/vocational worksite teacher/coordinate endorsement

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Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Diversified Cooperative Training (DCT) 179960 (continued)	Vocational		Voc	170900 w/ 600120	Commercial Photography Occupations w/vocational worksite teacher/coordinator endorsement	171001 w/ 600120	170900 w/ 600120	Commercial Photography Occupations w/vocational worksite teacher/coordinator endorsement

Object Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	Licenses Credit	Licenses Type	Licenses Code	Licenses Area	Certificate Types	Certificate Code	Certificate Area
Diversified Cooperative Training (DCT) 179960 (continued)	Vocational	171300 w/ 600120	Drafting Occupations w/vocational worksite teacher/coordinator endorsement	171300 w/ 600120	Drafting Occupations w/vocational worksite teacher/coordinator endorsement			
		171402 w/ 600120	Power Transmission w/vocational worksite teacher/coordinator endorsement	171402 w/ 600120	Power Transmission w/vocational worksite teacher/coordinator endorsement			
		171403 w/ 600120	Motor Repair w/vocational worksite teacher/coordinator endorsement	171403 w/ 600120	Motor Repair w/vocational worksite teacher/coordinator endorsement			
		171503 w/ 600120	Electronics w/vocational worksite teacher/coordinator endorsement	171503 w/ 600120	Electronics w/vocational worksite teacher/coordinator endorsement			
		171504 w/ 600120	Telecommunications w/vocational worksite teacher/coordinator endorsement	171504 w/ 600120	Telecommunications w/vocational worksite teacher/coordinator endorsement			
		171505 w/ 600120	Computer Network Technology w/vocational worksite teacher/coordinator endorsement	171505 w/ 600120	Computer Network Technology w/vocational worksite teacher/coordinator endorsement			
		171900 w/ 600120	Graphic Occupations w/vocational worksite teacher/coordinator endorsement	171900 w/ 600120	Graphic Occupations w/vocational worksite teacher/coordinator endorsement			
		172000 w/ 600120	Chemical Laboratory Assisting w/vocational worksite teacher/coordinator endorsement	172000 w/ 600120	Chemical Laboratory Assisting w/vocational worksite teacher/coordinator endorsement			
		172004 w/ 600120	Industrial Laboratory Assisting w/vocational worksite teacher/coordinator endorsement	172004 w/ 600120	Industrial Laboratory Assisting w/vocational worksite teacher/coordinator endorsement			
		172302 w/ 600120	Precision Machining w/vocational worksite teacher/coordinator endorsement	172302 w/ 600120	Precision Machining w/vocational worksite teacher/coordinator endorsement			
		172303 w/ 600120	Manufacturing Operations w/vocational worksite teacher/coordinator endorsement	172303 w/ 600120	Manufacturing Operations w/vocational worksite teacher/coordinator endorsement			
		172304 w/ 600120	Heavy Metal Fabrication w/vocational worksite teacher/coordinator endorsement	172304 w/ 600120	Heavy Metal Fabrication w/vocational worksite teacher/coordinator endorsement			
		172305 w/ 600120	Sheet Metal w/vocational worksite teacher/coordinator endorsement	172305 w/ 600120	Sheet Metal w/vocational worksite teacher/coordinator endorsement			
		172306 w/ 600120	Welding & Cutting w/vocational worksite teacher/coordinator endorsement	172306 w/ 600120	Welding & Cutting w/vocational worksite teacher/coordinator endorsement			
		172307 w/ 600120	Tool and Die Making w/vocational worksite teacher/coordinator endorsement	172307 w/ 600120	Tool and Die Making w/vocational worksite teacher/coordinator endorsement			

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	Licenses Code	Certificate Type	Certificate Code	Certificate Area
Diversified Cooperative Training (DCT) 179960 (continued)	Vocational Voc	172700 w/ 600120 172801 w/ 600120 172802 w/ 600120 172808 w/ 600120 173100 w/ 600120 173601 w/ 600120 179960	Plastics Occupations w/vocational worksite teacher/coordinator endorsement Fire Fighter Training (Paid) w/vocational worksite teacher/coordinator endorsement Criminal Justice w/vocational worksite teacher/coordinator endorsement Private Security w/vocational worksite teacher/coordinator endorsement Power Equipment Technology w/vocational worksite teacher/coordinator endorsement Millwork and Cabinet Making w/vocational worksite teacher/coordinator endorsement Diversified Cooperative Training Hazardous Materials Management Technology w/vocational worksite teacher/coordinator endorsement	172700 w/ 600120 172801 w/ 600120 172802 w/ 600120 172808 w/ 600120 173100 w/ 600120 173601 w/ 600120 179960	Plastics Occupations w/vocational worksite teacher/coordinator endorsement Fire Fighter Training (Paid) w/vocational worksite teacher/coordinator endorsement Criminal Justice w/vocational worksite teacher/coordinator endorsement Private Security w/vocational worksite teacher/coordinator endorsement Power Equipment Technology w/vocational worksite teacher/coordinator endorsement Millwork and Cabinet Making w/vocational worksite teacher/coordinator endorsement Diversified Cooperative Training Hazardous Materials Management Technology w/vocational worksite teacher/coordinator endorsement	Plastics Occupations w/vocational worksite teacher/coordinator endorsement Fire Fighter Training (Paid) w/vocational worksite teacher/coordinator endorsement Criminal Justice w/vocational worksite teacher/coordinator endorsement Private Security w/vocational worksite teacher/coordinator endorsement Power Equipment Technology w/vocational worksite teacher/coordinator endorsement Millwork and Cabinet Making w/vocational worksite teacher/coordinator endorsement Diversified Cooperative Training Hazardous Materials Management Technology w/vocational worksite teacher/coordinator endorsement
Hazardous Materials Management Technology 179962					179962	Hazardous Materials Management Technology
						160
						161

Subject Area—Secondary Trade and Industrial

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Certificate Area
Vocational Adjustment Lab 179996	Specialized program designed to change inappropriate work behaviors, work attitudes, and social skills into more appropriate ones utilizing a controlled work environment. The laboratory is directed to handicapped students who, in all likelihood, would be unsuccessful in vocational pursuits as a result of their handicapped condition.	Voc	179996	Vocational Adjustment Lab	Voc	Vocational Adjustment Lab	Vocational Adjustment Lab

Subject Area—Visual Arts

Subject Code and Title	Subject Definition	License Type	License Code	Licensure Area	Certificate Type	Certificate Code	Subject Area
Visual Arts 020000	Two- and three-dimensional art forms are created and studied in relation to works created by artists in other cultures and historical periods. Principles of art criticism and aesthetics are employed to reveal works expressive, formal, and technical properties.			Visual Arts		Visual Arts K-12	
Art Appreciation 020100	Exemplary works of visual art from diverse cultures and historical periods are examined with emphasis on products created by contemporary artists and by the student. The social, creative, and aesthetic values of the works are considered in terms of alternative philosophical points of view.					020015	
Art History 020101	Inquiry is made into the reciprocal impact of visual art and culture (particularly of philosophy, religion, economics, politics, and other art forms). Key works are studied both chronologically and thematically in terms of style, subject matter, formal organization, and medium.					020012	
Design 020200	Students explore in their own work the expressive qualities of the elements of the works of art (line, color, shape, texture, form, and space), and the ways they can be organized according to the principles of unity, variety, composition, rhythm, overlay, balance, emphasis, movement, repetition, proportion, and contrast. How elements and principles have been used by professional artists are also studied.					7-12 K-12	

Object Area—Visual Arts

Subject Code and Title	Subject Definition	Subject Credit	License Type	License Code	Licensure Area	Certificate Type	Certificate Codes	Certificate Area
Crafts 020240	Students acquire utilitarian skills including weaving, jewelry-making, fabric crafting, basketry, metalsmithing, leather-shaping, and wood-forming. Objects by professional craftpersons are studied for their formal, expressive, and technical properties.	Art	020012	MA	Visual Arts	7-12 K-12	020015 020012	Visual Arts 7-12 Visual Arts K-12
Ceramics 020242	Original objects (primary pottery and sculpture) are created with clay using hand building, casting, wheel forming, and glazing techniques. Objects created by professional ceramists are examined for their expressive, formal, and technical properties.		020242					
Drawing and Painting 020250	Pencil, pen and ink, chalk, charcoal, acrylics, oils, and watercolors are explored to create original personal images. Drawings and paintings by professional artists are examined for their formal, expressive, and technical properties.		020250					
Photography and Film Making 020270	Still and motion picture camera procedures are investigated along with darkroom developing and printing techniques. The expressive, formal, and technical qualities of professional works are studied.	Voc	020270 160610	Art Technology Education	7-12 K-12 7-12 K-12 7-12 K-12 7-12	7-12 K-12 7-12 K-12 7-12 K-12 7-12	020015 020012 020270 020271 100005 102000 100315 101320	Visual Arts (7-12) Visual Arts (K-12) Photography (7-12) Film Making Ind. Arts Ind. Arts Ind. Tech Ind. Tech
Printmaking 020280	Linoleum block printing, woodblock printing, silk-screen printing, and etching are studied as possibilities for creating pictures, greeting cards, and fabric designs. Professional printmakers products are examined to determine their technical, formal, and expressive qualities.		020280	Visual Arts	7-12 K-12		020015 020012	Visual Arts 7-12 Visual Arts K-12

Subject Code and Title	Subject Definition	License Type	License Code	Certificate Area	
				Certificate Type	Certificate Code
Sculpture 020290	Various media such as clay, metal, wood, stone, and wire and various processes such as carving, casting, soldering, and modeling are investigated as means for creating three-dimensional artistic forms. Professional sculptors works are studied for their expressive, formal, and technical properties.	Art MA	020012	Visual Arts 7-12 K-12	020015 020012 Visual Arts (7-12) Visual Arts (K-12)
AP Arts 029902	An advanced course of organized subject matter and experiences in art that, upon successful completion, grants college credit to the student. Visual art, music, dance, and drama/theater are compared and contrasted to reveal their similar and different formal, expressive, and technical properties. Works from different cultures and time periods as well as those created by the students are studied.	Art Drama/Theater Music	080314 080302 050337 050338 120010 120050	Dance (7-12) Dance (K-12) Drama/Theater (9-12) Drama/Theater (K-12) Music (7-12) Music (K-12)	
Graphic Arts Unfilled Arts	Computer design is explored to develop understanding of techniques, processes, and possibilities of electronic media to understand, create and appreciate visual art.	Art	7-12 K-12	020015 020012	Visual Arts (7-12) Visual Arts (K-12)



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